

# Toronto computes!

The technology lifestyle magazine

[www.canadacomputes.com](http://www.canadacomputes.com)**FREE****FEBRUARY 2003**trader  
classified media**LOOKING FOR A HOME**

## ENTERTAINMENT CENTRE



HP Media PC

Go golfing

Digital Flash

Starting a Palm life

# Looking for the Best Value in Internet Access?

## Dial-Up Access

Dial-Up Product Matrix	15 Hours	50 Hours	100 Hours	150 Hours	Unlimited	Unlimited Dual Login
Monthly Price	\$5.00	\$9.95	\$14.95	\$19.99	\$19.99	\$29.99
Yearly Price	\$60.00	\$99.50	\$149.99	\$199.99	\$239.99	\$299.99
Additional Hours	\$1.00	\$1.00	\$0.50	\$0.50	N/A	N/A
E-Mail Addresses	1	1	2	5	4	8
WebSpace	5 MB	10 MB	10 MB	20 MB	20 MB	30 MB
Spam Filtering	FREE					
Anti-Virus Filtering	\$10/Yr*	\$10/Yr*	\$10/Yr*	\$10/Yr*	\$10/Yr*	\$10/Yr*
WebMail Access	FREE	FREE	FREE	FREE	FREE	FREE

## New User Special!

- > **UNLIMITED ACCESS!**
- > **56K v.90 Dial-Up**
- > **1 E-Mail Address**
- > **10MB WebSpace**
- > **WebMail Access**

**\$99.99/yr!**

# Look No Further!

## High Speed DSL SPECIAL

- > **1Mb PPPoE**
- > **Unlimited Access**
- > **5 E-Mail Addresses**
- > **10Mb WebSpace**
- > **20hrs Free Dial-Up!**

Starting from **\$24.95** per month\*\*\*

## Residential DSL Access

DSL Product Matrix	Static IP	Unlimited Access	Transfers /Month**	Virtual Host	E-Mail Addresses	Web Space	Dial-Up Access	Modem Included	Set-Up Fees	Monthly Fees
1Mb PPPoE	N	Y	15GB	N	5	10MB	20 Hr/mth	N	N/A	\$34.95
3Mb PPPoE	N	Y	15GB	N	5	10MB	20 Hr/mth	N	N/A	\$69.95
1Mb PPPoE/HO	N	Y	15GB	Y	10	50MB	20 Hr/mth	N	\$50.00	\$59.95
3Mb V-Lan	Y	Y	20GB	N	5	10MB	20 Hr/mth	Y	\$275.00	\$109.95
3Mb V-Lan/HO	Y	Y	20GB	Y	10	100MB	30 Hr/mth	Y	\$275.00	\$134.95

\* SPAM and Anti-Virus Filtering available for \$10 per year with the pre-payment of a years service. \*\* Additional transfers billed at the rate of \$4.90 per GB. \*\*\* \$24.95 per month for the first 3 months then price reverts to \$34.95 per month. Modem rental not included.



**416-385-0459**

<http://www.eol.ca>

**Serving the GTA since 1995!**

**2600 Skymark Ave., Building 9 Suite 201, Mississauga, Ontario L4W 5B2**

(C) 2002 Echo Online Internet Inc. All Rights Reserved. Prices subject to change without notice. Taxes NOT included.

## FLATRON L1800P

### 18.1" FLATRON LCD

Super Slim Bezel (1.7cm)  
VESA Mount Compatible  
Pivot Enabled  
Height Adjustable  
Dual Interface



# Flat Out Brilliant!

Bright, vibrant displays with one-third the weight and footprint of typical picture tube monitors. As a leading developer and manufacturer of active matrix TFT-LCD monitors, LG Electronics is not only at the height of newer and greater display technology, it also brings efficiency in design, performance and reliability. LG FLATRON LCD... for a better viewing experience at your workstation. Find out more at [www.flatron.com](http://www.flatron.com)

**LG FLATRON LCD** monitors are available in 30, 22, 18, 17 and 15 inch screen sizes.



**295LM**  
22"  
PIP Function/  
Multimedia



**L1800PK**  
18"  
Black Cabinet,  
Narrow Bezel/  
Pivot Function



**566LM**  
15"  
Silver Bezel/Black Base,  
Built-in Stereo Amplifier  
and Speakers



**786LS**  
17"  
Silver Bezel/  
Black Base,  
VESA Standard



**L1511S**  
15"  
Two Tone Grey Cabinet,  
Narrow Bezel, VESA Wall  
Mount Compatible



**L1511SK**  
15"  
Black Cabinet,  
Narrow Bezel,  
VESA Wall Mount  
Compatible

**FLATRON™**  
freedom of mind

[www.lg.ca](http://www.lg.ca)  
1-888-LGCANADA



LG and the LG logo are registered trade marks of LG Electronics Canada Inc.



Digitally yours

22569514



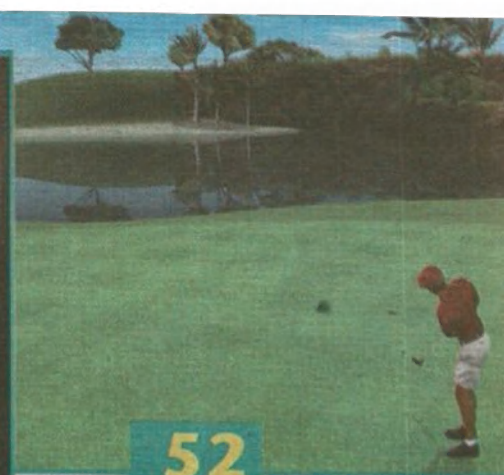
10



14



20



52

# c o n t e n t s

## Features

- 14** The PC emerges as a home entertainment server
- 22** Home theatre audio on the cheap
- 29** Turning students into info scavengers
- 36** Text messages come to car radios
- 42** Good times at Mac love-in  
Macworld post-show report
- 49** Multi-region DVD players open up a world of movies

## Reviews

- 16** Frivolous, fun and just better
- 20** A cacophony of convergence at CES
- 28** Moving from paper to Palm
- 46** Stuffing Windows
- 48** Locking the virtual front door
- 49** FlashDio offers secure storage

## CreativeTech

- 34** Musical Odyssey:  
Bang the drum electronically
- 35** Adventures in digital video:  
Golden rules and mean screenfs
- 37** Digital Words: Adobe PDF  
and a printer's paradise
- 38** Digital Shots:  
Figuring out flash

See page 54 for details on a new  
Photo Spree Assignment.

Enter our annual  
Digital Design Contest.  
See page 62 for details.

## Regulars

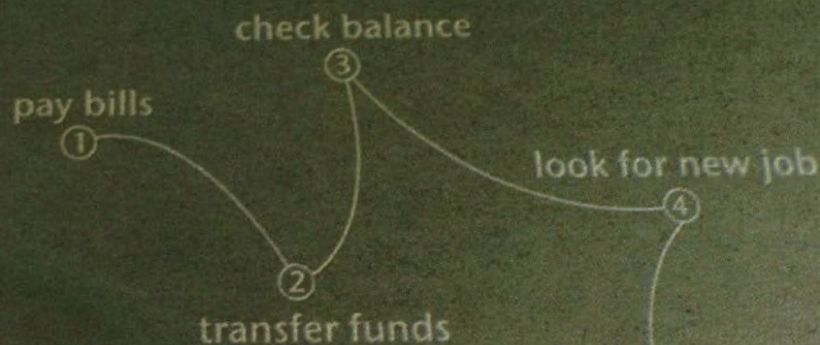
- 6** Letters
- 8** News Briefs
- 10** New Products
- 41** Kids: Baby Einstein comes to the PC
- 41** Kids: Kidproof your computer files
- 44** The World is My Cubicle by Alan Thwait's
- 45** Linfield's Line by Kevin Linfield
- 47** Mac Chronicles by Dwayne R. Brown
- 62** Profile: Josh Avery

## Cyberplay

- 50** Cyberbriefs
- 51** Pink flamingo heaven
- 52** Hit the *Links* from the warmth of home
- 53** Take on Tiger in *PGA Tour 2003*
- 54** Game On! by Marc Saltzman
- 55** Do you have a *Need for Speed?*
- 56** *Battle at Procyon* continues adventures of Jim Hawkins
- 58** At Play by Sharlene Myers
- 60** PC gaming: What's coming ...

# t o r o n t o c o m p u t e s !

## February 2003



We can take you where you want to be, *fast*.

**Sympatico**  
High Speed

Whether it's banking or checking the job market, with Bell Sympatico™ High Speed Internet service, you can do all of these things online. It's always fast – even during peak hours! And it can leave you with more time to spend on the things that matter most to you, like family and friends. Plus, it leaves your phone line free, so you won't miss important calls.

**FREE**  
first month\*

**BONUS MUSIC PACKAGE! \*\***  
MUSICMATCH® Jukebox Plus software  
1 month of MUSICMATCH MX service

**AN INCREDIBLE \$80 VALUE!**

Call 1 877 567-5021 today.  
Visit [www.bell.sympatico.ca/gofast](http://www.bell.sympatico.ca/gofast)  
or your nearest Bell World store.



go

\*Download speeds online can vary with Internet traffic, server or other factors. \*Sympatico High Speed Internet service is available only to residential customers where technology permits. Regular monthly rate applies in month two (currently \$44.95/month) and includes access, modem use and 10GB of combined download and upload bandwidth activity. Additional charges apply for excess bandwidth usage. Rates subject to change and exclude applicable taxes. \*\*MUSICMATCH MX service (currently \$7.95/month) and Jukebox Plus software (currently \$29.95) are available only to residents of Canada. MUSICMATCH MX service and Jukebox Plus software are provided by MUSICMATCH Inc. Minimum system requirements and other terms and conditions apply and are set out at [www.musicmatch.ca](http://www.musicmatch.ca). MUSICMATCH MX and Jukebox Plus are not compatible with Macintosh® operating systems. Additional hardware and/or software may be required in order to use MUSICMATCH MX and Jukebox Plus with Sympatico High Speed Internet service. Offer ends March 31, 2003, and is available to new Sympatico High Speed subscribers only. Offer subject to cancellation or change without notice and cannot be combined with any other Bell Sympatico offer. Other conditions and restrictions apply. For full details, go to [www.bell.sympatico.ca/gofast](http://www.bell.sympatico.ca/gofast) or call 1 866 597-7582.

Sympatico is a trade-mark of Bell Canada; MUSICMATCH® is a registered trademark of MUSICMATCH Inc.; Macintosh is a trademark of Apple Computer, Inc., registered in the U.S. and other countries.

If you are like me, there is a ton of technological flotsam and jetsam in your life. Technology has a way of advancing and leaving a lot of debris in its wake.

This editorial column is inspired by the death of my Mac Plus. The fact that it lived so long is a wonder. The fact that I care is another one. I like the original Macintosh shape. It has this classic industrial look that is not surpassed — even by the ubiquitous iMac. The original Mac looked great with its boxy shape and tiny black and white screen.

It is the display that has bought the farm. The monitor on those Macs was always the Achilles heel. My monitor lasted a long time but finally packed it in. I'm looking at it, with its external 120 MB hard drive, and think to myself that it is the end. I haven't used it for a long while, so I won't miss it in terms of productivity. However, there is the sentimentality. I hold on to these machines even though they are absolutely useless. I still have every computer I have had but one. (My brother has a 350 MHz PC that I bought when 350 MHz was fast.)

My Amiga 1000 sits forlorn in my mom's basement. Right next to it is the 386 PC, with 4 MB of memory, which has had some parts cannibalized — the floppy drive and hard disk are missing. On a shelf above these two computer relics is my old 286 laptop — my computer mainstay through three years of travel. The hard drive refuses to boot up and I have not gotten



around to fixing it — there are some important files on the hard drive, I think. At my place of abode I have my old Mac Plus, whose screen just died, and a Mac Powerbook whose battery won't hold a charge.

The Mac Powerbook's screen size is nearly the same size as the one on the Mac Plus. It would be nice to be able to grab the one from the Powerbook and put it into the Mac Plus, but they are not compatible with each other. I was thinking of emptying the guts of the Mac Plus and fitting the Powerbook's guts into the Mac Plus case, but after playing with my Powerbook, after years of neglect, I realized that, being a pre-Power PC Mac, it is not very good for anything that I would want it to do — it won't play MP3s, for example.

Don't be confused — I have leading-edge stuff that I use to test new software and peripherals. It is just that I have never disposed of any obsolete equipment. I've always believed that I can somehow make use of these obsolete relics of technology. I own three dot-matrix printers, for crying out loud. I still have hope for them.

The death of my Mac Plus's monitor has changed my attitude. I'm not going to keep any of these technological cadavers around me any more. If you want the Amiga 1000, drop me a line. The 386 PC is going to the recycling bin. The 286 laptop will have one last shot of redemption, just to get the files that may or may not be there, before it heads to recycling as well. The Mac Plus's case will be converted to a speaker for my stereo once a similar case is found. The Mac Powerbook will hang around for a little bit longer — for sentimental reasons.

Nestor Gula can be reached by e-mailing nestor@tcp.ca ♦

## Reader Feedback

### Micro-payments: More Canadian options

Re: Small business still waiting for micro-payment systems, *TC!* January

In your informative and useful article on micro-payments for small business you missed one of the best (in my opinion) providers, namely Internet Secure (www.internetsecure.com).

It is a Canadian company providing to its member-businesses the ability to accept online payments via the major credit cards, in either Canadian or US dollars (or any other currency), without requiring its customers to establish additional accounts such as "wallets." Its credit card discount rate is comparable to the rates banks give to their small business accounts. My experience as a

member-merchant has been very positive.

Themmis Anno

### A case for responsible upgrades

Re: Entry-level flat panels, *TC!* January. In your article about flat panel displays Dave Chappelle makes a good argument for making the upgrade from a cathode ray tube (CRT) monitor to a more space and energy efficient liquid crystal display (LCD) model.

However, it is important for your readers to note that in making the upgrade, something has to be done with the outdated CRT monitor. If readers can "trade it for a case of beverage," so much the better, but failing

some sort of re-use, arrangements have to be made for proper disposal of the monitor and the hazardous materials it contains, most notably, between seven and nine pounds of lead in your standard 15-inch CRT.

Leaving a monitor to languish in landfill is not an option. Rather, readers should seek out proper disposal routes, though this will usually cost the person getting rid of the monitor, as the recovered materials don't cover the cost of proper disposal.

Please ask your readers to not just dump their outdated CRTs (monitor, television or otherwise) but to arrange for proper and less harmful disposal.

George Artemenis



The Editor *Toronto Computes!*  
625 Church St., Suite 600, Toronto, ON M4Y 2G1  
tcletters@tcp.ca

Letters on issues raised in the paper or general computer topics are welcome. Please be brief. We regret that we are unable to look up stories from past issues, suggest products, or solve all your computer problems. All correspondence must include your full name in addition to your e-mail or snail-mail address. Letters may be edited for space or content.

## Letter of the Month

For his letter this month, George Artemenis wins a copy of *No One Lives Forever 2: A Spy in H.A.R.M.'s Way*. *NOLF2* is the sequel to the award-winning *The Operative: No One Lives Forever* and continues the story of Cate Archer as she goes up against H.A.R.M. minions. Players must rely on stealth and wits and occasionally sheer brute force to avert a nuclear holocaust.



# Toronto computes!

## CCP Editorial Director

David Tanaka

## Editor

Nestor Gula, nestor@tcp.ca

## Managing Editor

Chris Talbot, chris.talbot@tcp.ca

## Assistant Editor

Andrew Moore-Crispin, andrew.moore-crispin@tcp.ca

## Contributing Editors

Lynn Greiner, Kevin Linfield, Marc Saltzman, Alan Thwait, Samson Okalaw

## Copy Editor

Shirley Myers

## Art Director

Helga Stitt

## Online Editor

Jessica Malone

## Publisher/General Manager

Dick Peters

## Associate Publisher

Rob Crawford, rob@tcp.ca

## Production/Distribution Director

Maxine Lewis, maxine.lewis@tcp.ca

## Production

Chris Brockley, Steve Stoner, Sabrina Garafalo, Lara Bazant, Roxanna Bennett

## IT Department

Steve Quinney, Dan Wojtkiewicz

## Marketing Manager

Natalia Nossowska, natalia.nossowska@tcp.ca

## National Sales Manager

Ian Harling, ian.harling@tcp.ca

## Corporate Account Manager

John Chiasson, john.chiasson@tcp.ca

## Advertising Sales

Scott Piccolo, Ralph Ventriglia

## Advertising Coordinators

Donna Goddard, donna@tcp.ca

Karen Samuels, karen.samuels@tcp.ca

## Classified Sales

Donna Eng, adclass@tcp.ca

## Circulation

Tracy Magee-Graham

## Distribution

Gabriella Dan

## About the cover

Our February cover was designed by Chris Brockley.

*Toronto Computes!* is published monthly by Canada Computer Paper Inc. under licence from Canada Computer Paper Inc.

Canada Computer Paper Inc. Corporate Office  
625 Church St., Suite 600, Toronto, ON M4Y 2G1  
Tel: (416) 923-4200 Fax: (416) 923-5394  
Copyright 2003  
unless otherwise specified.

## Subscriptions

1-800-465-3517 x 1273  
Subscriptions: \$19.99 (\$21.39 with taxes) a year  
U.S. subscriptions: US\$75, Overseas subscriptions: Can\$135  
Mail cheques or money orders (payable to Toronto Computes!) to:

## Toronto Computes!

625 Church St., Suite 600, Toronto, ON M4Y 2G1  
Tel: (416) 923-4200 Fax: (416) 923-5394

Canadian Publication Mail Sales Product Agreement  
#0169021

Printed in Canada ISSN 297433

*Toronto Computes!* is distributed free through hundreds of stores, restaurants & boxes around Metro Toronto.

## CCAB

The publisher reserves the right to refuse sexist, racist, or otherwise offensive advertising. The publisher also reserves the right to be the final judge of what is appropriate. Information in both editorial and advertising is believed to be true, however, the publisher assumes no responsibility for errors or omissions.

Announcements: pressreleases@tcp.ca

March 2003 Issue: Music

Ad deadline: Monday, February, 17

Distribution: Wednesday, February, 26

The full text of *TC!* is available online at:

www.canadacomputes.com

# Ease into Reliable Service.

WHY SHOULD INTERNET ACCESS BE A HASSLE?

## WE MAKE IT EASY

At Pathway Communications, we work hard to ensure that your connection is always up and that you have access to your vital information all day, every day. And, unlike some other providers, there are no extra charges or limits to

downloads, ever. When you sign on with Pathway, you receive affordable and reliable service with prompt, friendly, and knowledgeable technical support whenever you need it. Guaranteed!

## FOR YOUR HOME

### DIAL-UP INTERNET SERVICES

Plan	Free hours per month	Free Web Space	Free Mailboxes	Monthly Fee	Annual Fee
PLAN 1	50	2 MB	1	\$ 9.95	\$ 99.00
PLAN 1F (Family)	100	5 MB	2	\$14.95	\$149.00
PLAN 2 (Family)	150	7 MB	3	\$19.95	\$199.00
PLAN 3	Unlimited!	9 MB	4	\$25.95	\$279.00
PLAN 3F (Family)	350	12 MB	5	\$25.95	\$279.00

One time installation fee of \$30

**FastPath, Unlimited HIGH SPEED ADSL** residential Internet access with e-mail virus protection, and spam control, - all for only \$34.95 per month!

## FOR YOUR BUSINESS

### WEB & EMAIL HOSTING

	Web Space	Email Addresses	Monthly Fee
Web 1	40 MB	10	\$19.95
Web 2	100 MB	20	\$29.95
Web 3	200 MB	40	\$59.95

One time installation fee of \$35

1.5/3.0 Mb ADSL  
128K Dedicated ISDN  
Special Offer: \$199/mo.  
T1 Dedicated Access  
Server Co-Location

Visit our website for added features!



Serving Toronto since  
**1995**

Corporate Resellers Welcome  
Please call ext. 2885 for information

**416 214-6363**

1 Yonge Street, Suite 2205, Toronto, ON M5E 1E5 info@pathcom.com, www.pathcom.com

By ANDREW MOORE-CRISPIN

A not-for-profit organization called the Canadian Coalition for Fair Digital Access (CCFDA, at [www.ccfda.ca](http://www.ccfda.ca)) is setting itself up to oppose the proposed hike in the levy on recordable media.

The CCFDA is a coalition of Canadian retailers including Dell, Staples Business Depot, Radio Shack, Intel and Wal-Mart Canada, among others.

The current levy is applied to CD-recordable media and cassette tapes, with the money collected theoretically going to recording artists and record companies to compensate them for piracy of their intellectual property.

As it stands, the CPCC has collected in excess of \$3 million which has yet to be dispersed and still sits in the collective's coffers, the CCFDA says.

The expanded levy will be imposed on media not exclusive to MP3 players such as Flash Media, CompactFlash and Microdrive cards, found in many consumer digital cameras.

An independent band, Montreal-based The Datson Four, ([www.datsonfour.com](http://www.datsonfour.com)) played at the CCFA press event in an attempt to demonstrate how the proposed

levy increase will hinder independent bands using CD-R and other media to distribute their music, and will only benefit established Canadian musicians like the oft-made examples of Celine Dion and Bryan Adams.

"Performers and other copyright holders should be compensated fairly for their work," said Diane Brisebois, president of the Retail Council of Canada, "but not on the backs of people who are not pirates and don't even use these products to copy music."

"The current levy scheme won't help young bands like [the Datson Four]; it will only be a windfall for established artists and their record and publishing companies," she said.



If approved, the current levy of \$1.23 on MiniDisc and CD-R audio will increase 60 per cent, the \$29 the CPCC collects on audio cassettes will increase 107 per cent and CD-R media will have another 181 per cent added to the current \$.21 per disc levy.

#### For sale: Small California town

While real estate sales on eBay are nothing new, an American family achieved an eBay

first by putting the town of Bridgeville, California on the virtual auction block.

The 82-acre town sits about 550 km north of San Francisco. The successful bidder received the town, complete with four cabins, nine houses and a cemetery.

The town's 300 residents aren't part of

the deal, but those willing to speak to the news media that have been blitzing the town since the sale was announced have been generally happy about the sale, saying changes to the town could only really be positive, given its current dilapidation.

The sale included pretty well everything in the town with the exception of the roads and school, which are owned by the state, as well as the town bridge, which has been declared a national historic site.

The bidding topped out at US\$1,777,877, more than double the minimum asking price of US\$750,000.

No information is available on the winning bidder at time of writing, and the sellers, a brother and sister team, would be advised not to get their hopes up just yet as big ticket sales, much-hyped eBay auctions are often subject to bogus bids. The seller of hip-hop star Eminem's childhood home found this out the hard way, as bidding on that auction skyrocketed into the multi-million dollar range, but turned out to be much ado about nothing; the highest legitimate bid didn't even meet the minimum reserve, set at US\$120,000. ♦

# ANGEL

COMPUTERS

## Your Mobile Computing Specialist

### Your Valentine is Here!



#### ANGEL 2200 SMARTNOTE

- Intel Celeron 1 GHz, Upgradeable to P III
- 13.3" TFT Active Matrix LCD 1024x768
- 256 MB RAM, PCI 133
- 20.0 GB Hard Drive
- Built-in 56K V.90 Modem
- Built-in 10/100 Ethernet
- FireWire Port & PCMCIA Expansion slots
- Keyboard, Mouse & Windows XP Home

STARTING AT  
**\$1,399**  
OR LEASE FOR \$50/ MONTH\*



All Angel Computers are Customized & Upgradeable

#### NOTEBOOKS 2700 POWERNOTE



- 14.1" TFT LCD 1024x768
- Intel Pentium 4 1.8 GHz
- 256 MB SD RAM
- 20.0 GB Hard Drive
- Window XP Home

FROM **\$1,899**

#### 2500 SUPERNOTE



- 14.1" TFT LCD 1024x768
- Intel P4 Celeron 1.7 GHz
- 256 MB RAM 266 MHz
- 20.0 GB Hard Drive
- Window XP Home

FROM **\$1,899**

#### 2600 GIGANOTE



- 15.1" TFT LCD 1400x1050
- Intel Pentium 4 1.8 GHz
- 256 MB RAM 266 MHz
- 20.0 GB Hard Drive
- Window XP Home

FROM **\$2,499**

#### 2800 MEGANOTE



- 15.7" TFT LCD 1280x1024
- Intel Pentium 4 1.8 GHz
- 256 MB RAM 266 MHz
- 20.0 GB Hard Drive
- Window XP Home

FROM **\$2,899**

#### LCD PC 3300 LCD PC



- 15.1" TFT LCD 1024x768
- Intel Celeron 1.1 GHz
- 40.0 GB HDD 7200 RPM

FROM **\$1,599**

#### 4500 LCD PC



- 15.1" TFT LCD 1024x768
- Intel P4 Celeron 1.7 GHz
- 40.0 GB HDD 7200 RPM

FROM **\$1,899**

#### 4700 LCD PC



- 17" TFT LCD 1280x1024
- Intel Pentium 4 1.8 GHz
- 40.0 GB HDD 7200 RPM

FROM **\$2,399**

#### 1U / 2U SERVERS



- 1U SERVER Pentium Celeron
- 2U SERVER Pentium III

FROM **\$1,299**  
FROM **\$2,399**

#### NOTEBOOK ACCESSORIES

##### FIREWIRE EXTERNAL DRIVES

- CD-RW 42x10x40 ..... **\$299**
- PIONEER A04 DVD-RW ..... **\$499**

##### GPS PCMCIA OR COMPACT FLASH CARD

- Window XP, 2000, Me, 98, External Antenna Included. .... **\$299**

##### CELLULAR READY H/W PCMCIA MODEM

- Ositech Communication ..... **\$129**

##### 3 PORTS USB 2.0 or FIREWIRE PCMCIA CARD

- Window XP, 2000, Me, 98 ..... **\$99**

##### 2 SERIAL PORTS PCMCIA CARD

- Window XP, 2000 ..... **\$149**

##### UNIVERSAL PORT REPLICATOR

- Window XP, 2000, Me, 98 ..... **\$149**

##### UNIVERSAL CAR or A/C ADAPTORS

- Works with most notebooks ..... **\$129**

Build your Notebook Online @ [www.angelcomputer.com](http://www.angelcomputer.com)

Angel Notebooks are Assembled in Canada by: Canadian Advanced Industries Ltd.  
405 Britannia Rd. East, Unit 11, Mississauga, ON Canada L4Z 3E6  
Toll Free: 1-888-32ANGEL Fax: (905) 501-8376 E-mail: [halo@angelcomputer.com](mailto:halo@angelcomputer.com)

For Toronto East Call **DSG Laptops** (905) 428-1934 • Downtown Toronto call **Notebook Universe** (416) 366-6683 • Richmond Hill call **PC Tek** (905) 770-4900 / **HS Computing** (905) 787-9301



Proudly Assembled in Canada

# 905-501-8375

Toronto Central call **2000's Technology** (416) 490-6700 Maple call **Global Component** (905) 417-1722  
Toronto call **2000's Technology** (416) 490-6700 Maple call **Global Component** (905) 417-1722  
Richmond Hill call **PC Tek** (905) 770-4900 / **HS Computing** (905) 787-9301

Only **\$24<sup>95</sup>**/month\*

gives you **Look UltraFast DSL™**  
high speed Internet access...  
and something to shout about!

**Super Fast:** Look UltraFast DSL gives you  
incredibly fast access to a world of online excitement.  
Download interactive games, music and video up to  
30 times faster than a traditional modem.

**Always On** Get unlimited high speed Internet  
access with no dialing, no connecting.

**Doesn't Tie Up Your Phone Line**  
You can make or receive calls while you're on the Internet.

**Self Install** No installation fees. Most customers  
install Look UltraFast DSL themselves. With Look's simple-  
to-use-installation kit and our "plug & play" high speed  
modem you will be up and running in no time!

### A Look UltraFast DSL account includes:

- 5 e-mail addresses
- Look WebMail access
- Free parental filters
- 10 MB of Web space for  
a home page
- The best customer  
service/7 days a week

BUT HURRY! THIS MUCH EXCITEMENT IS AVAILABLE IN  
TORONTO AND MONTREAL FOR A LIMITED TIME ONLY.

Just call **1 877 395-5665** or  
全新「中文華語服務熱線」請電 1-888-333-0903  
visit us at **www.look.ca/ultrafast**



MP3 MP3 MP3  
QUICKTIME  
MOVIES

What a **RUSH!!!**



\*Taxes not included. Service available where technology permits. Certain conditions apply including, a one-time modem purchase at a reduced price of \$149.95 (reg:\$199). One-time activation fee of \$29.95 currently waived. Rate of \$24.95/month applies for the first 3 months with regular monthly rate of \$34.95 taking effect in the 4th month. Offer and rates subject to change without notice. Monthly rate includes 7.5 GB download and 7.5 GB upload of bandwidth activity. Download speed online can vary with Internet traffic, server or other factors. Additional bandwidth may be charged at the rate of \$0.00795/MB. Look will not assume expenses incurred to correct any wiring configuration in the subscriber's residence. Look UltraFast DSL is a trademark of Look Communications Inc. © 2002 Look Communications Inc. All rights reserved.

# Gates' SPOT predictions

## spot on?

By ANDREW MOORE-CRISPIN

### Gates' SPOT predictions spot on?

Bill Gates unveiled Microsoft's new Smart Personal Objects Technology (SPOT) implemented into wristwatches in his 2003 Consumer Electronics Show (CES) keynote address in Las Vegas.

While the watches are an RF radio shy of the Dick Tracy watch the gadget lover has long desired, Citizen Watch Co., Fossil Inc. and Suunto were on hand to showcase watch lines that use SPOT technology. Aside from being able to keep accurate time through network time setting, SPOT watches deliver personalized content to the screen, such as the ubiquitous weather, headlines, traffic, sports scores and stock quotes, as well as personal messages.

The information these smart watches receive will be sent over DirectBand, which has been created specifically for SPOT. DirectBand uses FM subcarrier technology that transmits data over the frequency modulation (FM) band of the radio frequency. In other words, SPOT technology will function in much the same way as enhanced car radios, which show an equipped radio station's call letters and in some cases, song or segment titles on the display, though Microsoft says the information displayed on the watch will be context relevant.

SPOT technology will be rolled out in 100 American cities across 50 states and "the largest cities in Canada," in the fall, according to a Microsoft press release.

### Handheld battle heating up?

The handheld game segment has been dominated by Nintendo ever since it released its Game Boy series almost 25 years ago and with subsequent releases like the Game Boy, Game Boy

Color and more recently, the Game Boy Advance. Competitors have come along (Sega's GameGear, Nomad; NEC's TurboXpress; and Atari's Lynx to name a few) but were quickly toppled by the Japanese giant.

Nokia is hoping to buck this trend with the first entry in its mobile game deck line.

The N-Gage handheld is set for a February release, and concept photos suggest the unit will borrow heavily from the Game Boy Advance's horizontal layout, with a D-Pad to the left of the screen, shoulder buttons above and action buttons on the right. As the N-Gage will double as a cell phone, there are considerably more buttons to be worked into the front of the unit.

The game deck will run on the Symbian OS, the same operating system found in many Nokia phones, including the 9210 Communicator line.

A partnership has been struck with Sega to develop games for the system, though no other game publishers have formally announced plans to support the system with software. Games will not be downloaded or bundled as they are on other cell phones, but rather distributed on memory cards, which will be sold at retail outlets.

### Handheld battle heating up ... more?

Speaking of Game Boy Advance, Nintendo's newest portable game system, the Game Boy Advance SP, is set for a March 22 Canadian launch.

The GBA SP responds to gamers' complaints that the unlit TFT LCD screen on the existing GBA makes the system too difficult to play in anything but the best lighting conditions.

Until now, the only way to light the

screen was with add-on lights that sit above the screen and create glare or with after market modifications, like the After Burner. However, installing the light modification requires that the GBA be opened, at a risk to its delicate innards.

The GBA SP uses a front lighting screen that sits on top of the existing LCD, rather than the backlighting commonly found in digital camera and handheld computer screens.

While the system specs and screen size are the same as the existing model GBA, the GBA SP seems to be reverting back to the days of the Game Boy games of old. The SP opens up clamshell style and closes down to about a 3.25-inch square with a depth of just under one inch.

### Not to be confused with PCP

Among the products with significant wow factor at CES in Las Vegas, many companies showed off their own versions of the Personal Video Player (PVP).

Most of the PVP devices on display followed the form factor of current hard drive-based MP3 players, with the notable addition of colour LCD displays of varying sizes.

Microsoft and Intel have teamed up to design the Media2Go, a PVP based around Intel's Xscale processors and Microsoft's Windows CE. Other manufacturers that have announced plans to create PVP products include Archos with its 40 GB Video AV340 with 3.8-inch LCD screen and slick form factor,

and ViewSonic, with its tentatively titled ViewSonic PVP (let's hope they manage to come up with something a little bit more creative) which, when it launches in the fall, will have a 10 GB hard drive and a 3.5-inch, 320x240 pixel display.

Archos was already showing off its Video AV140 model, which also has a 40 GB hard drive and can encode MPEG-4 video at 30 frames per second on the fly, but which has a tiny 237x234 pixel LCD screen. ♦



## PC Warehouse Direct™

Since 1989

A leading Canadian Supplier of  
Computer Hardware and so much more...  
Choose from thousands of Brand Name products.

1-866-PC-WINXP



Visit us online & \$ave on our Current Specials today!  
We Build the Finest Custom PC's in the Biz!  
Visit our Website at: <http://pcwarehousedirect.com>

### XPC 2.4GHz SS51G

- 2.4GHz Intel Pentium IV 533FSB 512K Cache
- 256MB Ultra-Fast CL2-DDR-RAM @ 333MHz
- 60GB ATA133 7200rpm HD & 52x24x52 CDRW
- Multimedia Keyboard & Optical Wheel Mouse
- Onboard Video+LAN+6-Channel-Audio+Firewire
- 4xAGP & 1xPCI Slot, plus numerous ports
- Compact Cube Design, Very Powerful and Quiet!
- Overclocking BIOS

"Your Old Grey Box...  
ain't what it used to be"

Now Only  
**\$1688**  
Quantities Limited



Complete Specs Online

Upgrades Add  
2.53GHz +\$89  
2.66GHz +\$189  
80GB/120GB HD +\$39/\$119  
512MB +\$129

### i-Buddy DeskNote

Now with the world's fastest 5400rpm hard drive  
ONLY AVAILABLE FROM PC Warehouse Direct™

- 1.8GHz Intel Pentium IV 400FSB 512K Cache
- SIS 650 Chipset with 533MB/s MuTIO
- 256MB Ultra-Fast CL2-DDR-RAM @ 333MHz
- 20GB ATA-100 5400rpm Hard Drive
- 16x12x24 CDRW / 8x DVD Combo Drive
- 64MB DDR 4xAGP 256Bit 3D Graphics
- 15.1" 1024x768 TFT Screen
- Overclocking BIOS

Prices and products  
subject to change,  
usually better & cheaper



Complete Specs Online

Now Only  
**\$1888**  
Quantities Limited

Upgrades Add  
2.4GHz +\$89  
2.6GHz +\$289  
40GB HD +\$89  
512MB +\$129



## The right connectivity solution for your business is all wrapped up.

Your business demands a high-performance infrastructure to run its mission-critical business applications. And AT&T Canada can provide it locally, nationally or globally. After all, we offer a full range of secure connectivity solutions – all backed by a 99.5% service uptime guarantee and a 30-day risk-free guarantee\*. To determine the right connectivity solution for your business, consider the following:

Internet solutions						Data Network solutions				
Dial-up	ISDN	ADSL	T1	E10	OC3	Private Line	Transparent LAN Service (TLS)	Frame Relay	ATM	Business IP
<ul style="list-style-type: none"> <li>• Do your employees require e-mail, Web browsing or Internet-based applications?</li> <li>• Does your business have a single office or multiple locations?</li> <li>• Does your business have a LAN?</li> <li>• How many users are on the LAN?</li> </ul>						<ul style="list-style-type: none"> <li>• Do your employees continuously need to share information such as inventory, CRM or financial data?</li> <li>• Does your business have multiple locations?</li> <li>• Are you deploying new business applications?</li> <li>• Are you centralizing your servers?</li> </ul>				

**Still not sure what your business requires? Contact an AT&T Canada Connectivity Specialist to assess your business' networking needs. Visit our Web Site or call today.**

[www.attcanada.ca/connect](http://www.attcanada.ca/connect)

**1 866 511-7980**



**AT&T Canada**

**B O U N D L E S S**

Voice Data Internet E-Business

\*Visit our Web site for complete details on AT&T Canada's service guarantees. Guarantee applies to Internet products only and is subject to change. Refunds will be granted based on set-up fees and/or monthly fee (as applicable), before taxes. Requests for a refund must be made in writing within 30 days following the installation of service. Terms and conditions apply. ©AT&T Corp. Used under licence. Please quote the following Promotion Code N378.

# MDG

**www.mdg.ca**



VALUE 2400 SHOWN



**MDG Recommends Microsoft® Windows® XP**  
**MDG PCs USE GENUINE MICROSOFT® WINDOWS®**  
[www.microsoft.com/piracy/howtotell](http://www.microsoft.com/piracy/howtotell)

**HOURS: MONDAY - FRIDAY: 10:00am - 7:30pm,**  
**SATURDAY: 10:00am - 6:00pm**

## VALUE 1700

### INTEL® PENTIUM® 4 PROCESSOR AT 1.70 GHz

- 512MB SDRAM Memory, 80GB Value Hard Drive
- 12x8x32 CDRW-ROM Drive, 1.44MB Floppy Drive
- Value Keyboard, Value Mouse
- 32MB 4xAGP Video, 3D Audio PRO Sound
- Mid Tower with Power Supply
- Value Amplified Stereo Speakers
- 17" SVGA Monitor
- **Microsoft Windows XP**
- 6 Months Unlimited **AOL** Internet Service Included<sup>3</sup>
- **FREE** Digital Camera

**\$989**

## VALUE 2000

### INTEL® PENTIUM® 4 PROCESSOR AT 2.0 GHz

- 512MB SDRAM Memory, 80GB Value Hard Drive
- 12x8x32 CDRW-ROM Drive, 1.44MB Floppy Drive
- Value Keyboard, Value Mouse
- 32MB 4xAGP Video
- 3D Audio PRO Sound
- Mid Tower with Power Supply
- Value Amplified Stereo Speakers
- 19" SVGA Monitor
- **Microsoft Windows XP**
- 6 Months Unlimited **AOL** Internet Service Included<sup>3</sup>
- **FREE** Rogers Hi-Speed Internet or Cogeco Internet on Cable offer, **FREE** Digital Camera

**\$1286**

## VALUE 2400

### INTEL® PENTIUM® 4 PROCESSOR AT 2.40 GHz

- 512MB SDRAM Memory
- 80GB Value Hard Drive
- 12x8x32 CDRW-ROM Drive
- 1.44MB Floppy Drive
- Value Keyboard, Value Mouse
- 32MB 4xAGP Video
- 3D Audio PRO Sound
- Mid Tower with Power Supply
- Value Amplified Stereo Speakers
- 15" LCD Monitor
- **Microsoft Windows XP**
- 6 Months Unlimited **AOL** Internet Service Included<sup>3</sup>
- **FREE** Rogers Hi-Speed Internet or Cogeco Internet on Cable offer
- **FREE** Digital Camera

**\$1599**

Tax not included. Intel, the Intel Inside logo and Pentium are registered trademarks and Celeron is a trademark of Intel Corporation. All products 3% cash discounted, prices subject to error and change without notice. Systems may not be exactly as shown. Promotional offers can not be combined and claimed at the same time. \*Six months no pay or six monthly payments options on approved credit only. Regular price for Rogers Hi-Speed Internet is \$44.95 a month, plus applicable taxes. Installation charges may apply. Some price restrictions apply including a \$10 surcharge per month for non-cable subscribers. Rogers VIP rates do not apply for the duration of the rebate period. Offer subject to error and change at any time without notice. Not available in all areas. Certain restrictions may apply. \*\*Rogers is a trademark of Rogers Communications Inc. Used under license. Copyright © 1999 COGECO Cable Canada Inc. Cable bill must be in good standing to apply. Offer applies to new Rogers Hi-Speed Internet customers only and cannot be extended to existing customers. Cannot have been a Rogers Hi-Speed or Cogeco High-Speed customer within the 30 day period prior to purchasing a qualifying MDG system. Customer is responsible for the cable modem. \*Communication charges may apply. Cannot be combined with any other offer. Offer ends January 31, 2003. Immediate pick-up may not be available in every case due to overwhelming responses, rain check available. Can not be combined with any other offer. Limited time and quantities offer. Store hours may vary.

# BE DIRECT BUY MDG

MDG's "Direct through stores" model cuts out middlemen and saves you a bundle. Personal service with a smile and a handshake, touch and feel demo models, no waiting - immediate pick-up, no hidden delivery fee. We manufacture it. We sell it. We deliver it. We support it and service it.

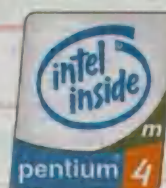
**Genuine MDG.**

## ValueBOOK

INTEL® PENTIUM® 4 PROCESSOR AT 1.70 GHZ

- 14.1" XGA LCD Screen
- 256MB SDRAM Memory
- 40GB Value Hard Drive
- 8X DVD Drive
- 16MB 4xAGP Video
- 3D Audio PRO Sound
- Built-in Speakers
- Microsoft Windows XP
- 6 Months Unlimited AOL Internet Service Included<sup>3</sup>
- FREE Rogers Hi-Speed Internet or Cogeco Internet on Cable offer

**\$1599**



VISIONBOOK SHOWN

## HorizonBOOK

INTEL® PENTIUM® 4 PROCESSOR AT 2.40 GHZ<sup>3</sup>

**FREE UPGRADE TO HUGE 15" XGA TFT-LCD SCREEN**

- 256MB DDR-SDRAM at 266MHz Memory
- 40GB Performance Hard Drive
- FREE UPGRADE TO 24x Max. CD-RW/DVD COMBO DRIVE**
- 64MB 4xAGP Video
- 4 USB, TV-Out
- 3D Audio PRO Sound
- Built-in Speakers
- Microsoft Windows XP
- 6 Months Unlimited AOL Internet Service Included<sup>3</sup>
- **FREE Rogers Hi-Speed or Cogeco Internet on Cable offer**

**\$1999**  
SIX MONTHLY PAYMENTS \$332.17

**INTERNET WITH  
AOL FOR SIX  
MONTHS  
UNLIMITED<sup>2</sup>**

WITH ANY SYSTEM PURCHASE



## VisionBOOK

MOBILE INTEL® PENTIUM® 4 PROCESSOR-M AT 1.70 GHZ

**HUGE 15" XGA TFT-LCD SCREEN**

- 256MB DDR-SDRAM at 266MHz Memory
- 40GB Performance Hard Drive
- 24x Max. CD-RW/DVD COMBO DRIVE**
- 64MB 4xAGP Video
- 2 USB 2.0, TV-Out, IEEE 1394 Ports
- 3D Audio PRO Sound
- Built-in Speakers
- Microsoft Windows XP
- 6 Months Unlimited AOL Internet Service Included<sup>3</sup>
- **FREE Rogers Hi-Speed or Cogeco Internet on Cable offer**

**\$2199**  
SIX MONTHLY PAYMENTS \$366.50

**CORPORATE & GOVERNMENT CLIENTS**

905.829.3538

MONDAY TO FRIDAY 9:00AM - 5:00PM

<b>MISSISSAUGA</b> 5650 McAdam Rd. WHITLINE AVE. HURONTARIO ST. (905) 712-4151	<b>SCARBOROUGH</b> 186 Shorting Rd. SHEPPARD AVE. HWY 401 (416) 299-7729	<b>TORONTO</b> 700 Bay St. COLLEGE ST. GERRARD ST. DUNDAS ST. (416) 421-8010	<b>NORTH YORK</b> 2180 Steeles Ave. W. STEELES AVE. W. KEELE ST. (905) 669-8841	<b>ETOBICOKE</b> 861 Brown's Line QEW EVANS AVE. (416) 255-9343	<b>WHITBY</b> 1645 Dundas St. E.#2 DUNDAS HWY 401 (905) 432-8990	<b>NEWMARKET</b> 17915 Leslie St.#15 STELLAR DR. DAVIS DR. HWY 404 (905) 898-5847	<b>KITCHENER</b> 1342 Weber St.E. HWY 8 HWY 8 (519) 895-8650	<b>ST.CATHARINES</b> 353 Lake St. SCOTT ST. LAKE ST. QEW (905) 938-8100	<b>HAMILTON</b> 836 Upper James St.#111 UPPER JAMES ST. CHURCH ST. (905) 318-8861	<b>BURLINGTON</b> 3425 Harvester Rd.#110 QEW HARVESTER RD. FAIRVIEW ST. (905) 631-8499	<b>BRANTFORD</b> 415 Fairview Dr. #3 FAIRVIEW DR. HWY 403 (519) 759-2387
--	--	---	---	---	--	--	--	--	---	---	--

# The PC emerges as a home entertainment server



By DAVID TANAKA

When it comes to home entertainment, convergence is alive and well, with the personal computer making its way to centre stage. The CES 2003 show, held in early January, is the show for consumer electronics, but on the show floor were many companies with names very familiar to us computer enthusiasts.

The reason is simple: all entertainment programming in the home is fast becoming digital. This includes purchased forms such as music and movies, subscription-based forms such as digital

commercial sources, to the creation of professional-quality home movies and slide shows captured with inexpensive camcorders and still cameras and edited on a Windows PC or Macintosh, or the creation of pro-quality music with inexpensive software.

At Macworld, which took place the same week as CES, Apple announced *iLife*, an integrated suite of media production applications. Apple rewrote *iPhoto*, *iMovie*, *iTunes* and *iDVD* so that the separate applications would work better together and named the bundle *iLife*. In his keynote address, Apple CEO

play the MP3 music collections residing on the hard drives of computers on the local area network or play Internet radio stations if the home network had an always-on connection through DSL or cable modem. Onkyo says that up to 12 *Net-Tune* receivers can operate on one network. The scenario this portrays is that different family members could listen to their own play lists from different rooms on their own Onkyo receivers, but have a centralized music library on the PC that everyone could access. Perhaps the biggest limitation to this kind of product, at least in the short term, is that

equipment. But behind the front panel is a 2.53 GHz Pentium 4 processor, 500 MB of RAM, 120 GB hard drive, a six-in-one memory card reader, DVD-RW recorder and USB 2.0 and FireWire ports. Tagar says in a news release that its media center PCs will be available across Canada in Radio Shack and The Brick outlets.

Software to add additional functionality to the media center PC is also starting to trickle out. Sonic Solutions of Novato, Calif. ([www.sonic.com](http://www.sonic.com)) announced *Sonic PrimeTime* at CES, which allows the consumer to burn a TV program to a

**Once programming becomes digital, it also becomes data, and what better device to handle any and all forms of digital data than the personal computer.**

cable and HDTV and home-grown productions such as digital video, digital photos and music.

Once programming becomes digital, it also becomes data, and what better device to handle any and all forms of digital data than the personal computer. As Craig Barrett, CEO of Intel, said in his CES keynote address, "The PC in my mind is the most versatile piece of equipment in the house; it is the most interactive piece of equipment in the house. It can handle all of the rich data, and it can also create that rich data."

Barrett was alluding to the personal computer as the ultimate recording and playback device. But he also talked about the third flank of convergence: The Internet. It's often been said that computers, communications and content form the "three Cs of convergence" and from this point of view, the computer is one of the primary enablers of digital home entertainment.

## The create side

TC! readers already know some of the story of personal digital creation, which goes from simple roll-your-own MP3 compilations of music ripped from com-

mercial sources, to the creation of professional-quality home movies and slide shows captured with inexpensive camcorders and still cameras and edited on a Windows PC or Macintosh, or the creation of pro-quality music with inexpensive software.

Steve Jobs said *iLife* is to digital media productivity what *Microsoft Office* is to integrated office productivity. "It's going to do wonders for our new digital lifestyle," said Jobs. Interestingly, at CES, ScreenBlast, a division of Sony Pictures Digital Entertainment Inc., was showing *Movie Studio* and *Music Studio*, which promise the same kind of easy media production for Windows users that *iLife* does for Mac users. The slogan for the two Sony applications is "dream it, drag it, drop it, done."

## An IP address for your stereo

Coming from the consumer electronics side, some manufacturers are making it simpler for their CE equipment to communicate with the computer. One such company is audio equipment maker Onkyo, which has added an Ethernet port to some of its receivers, including the high-end TX-NR900 that sells for US\$1,500 and the budget-priced NC500 (US\$400 MSRP). Both come with *Net-Tune* PC software that turns the receiver into a network client.

From a *Net-Tune* enabled receiver, a consumer would be able to access and

not many homes have Ethernet cabling installed to every room.

## A PC for your stereo cabinet

From the PC side of the industry comes the vision of the PC either eliminating or at least co-existing with traditional home entertainment equipment. Microsoft is one company that has tried to push this vision, and its latest foray into this space is Windows XP Media Center Edition. This special version of Windows XP, available only to equipment makers, allows them to integrate consumer-electronics types of features (including a TV tuner and a remote control unit) that will be supported in Windows. Hewlett-Packard Canada was the first to offer a Media Center PC to Canadian consumers, but it still looks like a tower PC.

On display in Microsoft's booth were designs from other makers that try to stylize the beige box. One of the coolest designs was from Richmond B.C.-based Tagar Systems, a subsidiary of McKinnon Micro Distributing. Tagar's high-end DeZinor doesn't even look like a PC: With its horizontal case and black, brushed aluminum faceplate, it could easily be mistaken for a piece of stereo

DVD disc with one touch of the remote. SnapStream Media ([www.snapstream.com](http://www.snapstream.com)) announced similar functionality in its *Personal Video Station 3.0* at Comdex in November.

## In the middle, bridges

Between the PC trying to be a home entertainment system at the one extreme and stereo receivers with IP addresses at the other, is a lively dance of products trying to bridge the two worlds. One example is the AudioTron AT200, which Voyetra Turtle Beach Inc. announced at the show. The AT200 looks like a home stereo component. It has analogue and digital output connectors that work with receivers and home theatre audio equipment, plus network connectors that plug into the PC. The device has an Ethernet port plus a phone jack, and will communicate with the PC using either Ethernet or existing phone wiring using HPNA 2.0.

Another example is cd3o, a San Diego, Calif. company that introduced a line of network MP3 players, which bridge the PC and home stereo with both network and stereo connections. The c200 and c300 models include an 802.11b wireless network interface. ♦



**are you connected?**  
**or well connected?**

**Information**  
**www.aei.ca**  
**info@aei.ca**

**Call us now !**

**416-640-1611**  
**1-877-305-4155**

## Residential

### HighSpeed Access

Always connected  
10hrs dialup access  
E-mail account 20MB  
50,000 news groups

#### HighSpeed

1.2 Mbps \$29.95 /m

#### Ultra HighSpeed

3.5 Mbps \$49.95 /m

### Dialup Access

56K V.92 dialup  
E-mail account 20MB  
50,000 news groups  
No Busy Signals

<b>10hrs</b>	\$4.95 /m	(\$49.50 /yr)
<b>40hrs</b>	\$9.95 /m	(\$99.50 /yr)
<b>100hrs</b>	\$14.95 /m	(\$149.50 /yr)
<b>Unlimited*</b>	\$22.95 /m	(\$229.50 /yr)

\* Based on Intermittent usage

## Business

### HighSpeed Access

Always connected  
20hrs dialup access  
5 E-mail accounts  
50,000 news groups

#### HighSpeed

1.5 Mbps \$69.95 /m

#### Ultra HighSpeed

3.5 Mbps \$99.95 /m

### HighSpeed Package

Always connected  
Modem / Router with Firewall  
Web hosting 40MB  
20 E-mail accounts  
100 hrs dialup access

#### HighSpeed

1.5 Mbps \$99.95 /m

#### Ultra HighSpeed

3.5 Mbps \$129.95 /m

## Web Hosting

### Virtual Domain

#### Intro

**\$29.95 /m ( \$299.50 /yr)**  
10MB of web space  
5 E-mail accounts

#### Intermediate

**\$39.95 /m (\$399.50 /yr)**  
40MB of web space  
20 E-mail accounts

Frontpage, ASP, PHP, SQL

#### Expert

**\$59.95 /m (\$599.50 /yr)**  
100MB of web space  
50 E-mail accounts  
Frontpage, ASP, PHP, SQL

#### E-mail only

**\$9.95 /m (\$99.50 /yr)**  
5 E-mail accounts  
(yourname@domain.com)

By MARA GULENS

Check out the "A Day in the Life" video at Microsoft.com (www.microsoft.com/windowsxp/mediacenter/default.asp). It's supposed to give you a feel for Microsoft's new Media PC, which it does. But it also makes you feel like you're watching an ad for Ikea, because so much of this new piece of technology has to do with the concept of space and home.

If you're a college kid in need of every kind of media imaginable, then run out and purchase the HP Media Center PC with Windows XP Media Center Edition now. If you already own a TV, PC, DVD or CD player, you probably won't be buying one of these goodies in the near future, but it's something worth dreaming about until you do.

But back to the video. Four college kids get together, watch movies, make videos and dance to music – all in the confines of one very small room. And that's precisely who the HP Media Center PC with Windows XP Media Center Edition is intended for, students and people with limited space.

The fact is, this particular piece of technology is so appealing that it will blend into your life in no time, and become impossible to part with. I can

honestly say that when my review time is up, I'll have a hard time shipping this baby away.

#### Whatcha get

The HP Media Center PC with Windows XP Media Center Edition (call it Media Center for



## Frivolous, fun and just better

short) is a complete entertainment centre. It's a PC together with a CD player, DVD player/recorder, flash card and memory slots, TV remote and of course, Microsoft Windows XP Media Center software. For the price you also get two external speakers, but the very necessary LCD monitor and extra sub-woofer are additional (though you can connect to the TV or monitor you already own).

The problem is, it still looks and feels like a PC, so for someone like me, placement remains an issue. I like having it in the family room for the TV, video, DV and pictures aspect, but there's really no room to place a desk in the TV area, and that's what you need for standard com-

puting. Moreover, it's a problem if one person wants to play a game and another wants to watch TV at the same time.

While the best thing about the package is the crash-safe remote, which lets you

switch between My TV, My Music, My Pictures, My Videos, Play DVD and Settings with ease, the designers have forgotten to fashion in a cordless mouse and keyboard, meaning any standard PC activity has to be done up close and personal – which in my case means crouching in front of a small monitor stand. Not exactly ergonomically beneficial, and certainly nothing close to what is recommended in the user's guide.

The other thing keeping me from rushing out to purchase this is the price. If I needed a new TV or a DVD recorder, especially a flat screen TV, then I would consider this item: Then the price starts

to even out. But since I already own several computers, two CD players and a television that works, shelling out this much cash for something that makes it all just better and more fun would really be frivolous.

Although I'm not a big TV fan, one of the top things the Media Center does is improve the TV viewing experience. With cable and a broadband Internet connection, you can download the TV guide (do it once and you're set), search for shows and press "record" to tape favourites. No messing with VCR programming, no money spent on VHS cassettes, and once you watch a show, just press delete to remove it from the hard drive.

For the time being, the Media PC is for people who work and play in one room. But if Microsoft and HP can figure out how to get the product out of the well-to-do student niche and come up with a solution for the rest of us, you can bet I'll be the first to say "aye." ♦

### more INFO

HP Media Center PC (Pentium 4; 2.5 GHz with keyboard, mouse, remote, speakers and Microsoft Windows XP Media Center Edition) \$2,599 (monitor not included)  
Hewlett-Packard  
h30040.www3.hp.com/mediacentrepc/index.php

### CanadaSys(Retail Division) EverChannel(Wholesale)

Mon – Fri : 11:30 – 7:30; Sat & Sun : 10 – 5

#### North York:

789 Lawrence West  
Tel : (416) 781-7738  
Tuesday: Closed

#### Lawrence

Dufferin

#### Scarborough:

2931 Lawrence East  
Tel : (416) 269-7738  
Wednesday: Closed

#### Lawrence

Brimley

#### Richmond Hill:

#103, 550 Hwy 7 East  
Tel : (905) 709-5799  
Wednesday: Closed

#### Leslie

Hwy 7 E.

Visit [www.CanadaSys.com](http://www.CanadaSys.com) for more saving & options, Dealers Welcome

**Duron 1.3G \$449**  
**AMD XP 1700 \$479**  
**AMD XP 2000 \$519**  
ECS K7S5A MainBoard  
128M DDR/256M SD(+\$10)  
64M AGP Video Card  
30G 7200r HD/1.44M FD  
ATX P4 Case / CDROM  
Sound & Lan on board  
56K Modem / Scroll mouse  
Keyboard / 180w speaker

**AMD XP 1700 \$509**  
**AMD XP 2000 \$549**  
**AMD XP 2100 \$569**  
Asus A7V266CA Board  
256M DDR RAM  
64M AGP Video Card  
30G 7200r HD/1.44M FD  
ATX P4 Case / CDROM  
Sound on board / Modem  
Keyboard / Scroll mouse  
180W Speaker

**Intel P4 1.7G \$569**  
**Intel P4 2.0G \$629**  
**Intel P4 2.4G \$679**  
ECS P4VXASD2+ Board  
128M DDR/256M SD(+\$10)  
64M AGP Video Card  
30G 7200r HD/1.44M FD  
ATX P4 Case / CDROM  
Sound & Lan on board  
56K Modem / Scroll mouse  
Keyboard / 180w speaker

#### Special

**Intel P4 2.0G \$709**  
**Intel P4 2.4G \$759**  
Aopen AX4TII Mainboard  
256M RD Memory PC800  
64M AGP Video Card  
60G 7200r HD/1.44M FD  
ATX P4 Case / CDROM  
Sound on board / Modem  
Keyboard / Scroll mouse  
Altec Lansing speaker

**Intel P4 1.7G \$599**

**Intel P4 2.0G \$659**

**Intel P4 2.4G \$709**

Asus P4SE Mainboard  
128M DDR Memory  
64M AGP Video Card  
30G 7200r HD/1.44M FD  
ATX P4 Case / CDROM  
Sound & Lan on board  
56K Modem / Scroll mouse  
Keyboard / 180w speaker

**Intel P4 2.0G \$779**

**P4 2.4G(533) \$829**

**P4 2.5G(533) \$899**

Asus P4S533 Mainboard  
256M DDR333 Memory  
64M AGP Video Card  
60G 7200r HD/1.44M FD  
ATX P4 Case / CDROM  
Sound on board / Modem  
Keyboard / Scroll mouse  
Altec Lansing Speaker

**Intel P4 2.0G \$899**

**P4 2.4G(533) \$949**

**P4 2.5G(533) \$1019**

Asus P4T533C Mainboard  
256M RD Memory PC800  
64M AGP Video Card  
60G 7200r HD/1.44M FD  
ATX P4 Case / CDROM  
Sound on board / Modem  
Keyboard / Scroll mouse  
Altec Lansing Speaker

#### ECS Laptops



**A900 \$969**

14.1" TFT / 128M / DVD  
10G HD / Lan / Modem

**AMD Xp1700 \$1099**

**AMD Xp2000 \$1149**

14.1" TFT / 256M DDR  
20G HD / Lan / Modem  
DVD / USB .....

**Intel P4-1.7G \$1279**

**Intel P4-2.0G \$1339**

**Intel P4-2.4G \$1389**

14" TFT / 20G HD / DVD  
256M DDR / Modem /  
Lan / USB / .....  
(Upgrade Cost:  
TFT 14" to 15": + \$80;  
DVD to CD-Writer/DVD  
Combo Drive: + \$80)

#### Accessories

ECS A900 Battery.....\$99  
ECS A928 Battery.....\$169  
External Floppy.....\$59  
USB External Hard Drive  
10G / 20G.....\$189/229  
Laptop Hard Drive  
20G / 40G.....\$139 / \$209  
Laptop Carrying Bag.....\$49

#### Monitors

17" LG 700S.....\$175  
17" Samsung 753DF.....\$199  
19" Samsung 955DF.....\$349  
19" KDS vs -190.....\$249  
19" KDS True Flat.....\$299  
17" Viewsonic E70F.....\$235  
17" Viewsonic E70FB.....\$239  
19" Viewsonic E90F.....\$355  
19" Viewsonic E90FB.....\$359  
15" Samsung LCD.....\$449  
15" Viewsonic LCD.....\$479

#### Network Related

Generic 10/100 NIC.....\$10  
D-Link 10/100 NIC.....\$18  
PCMCIA Network Card.....\$40  
USB External NIC.....\$30  
5 - port hub 10/100.....\$35  
D-Link 4-port Router  
DI-604.....\$79  
DI-704 w/PrinterServer.....\$95

#### Video Cards

64M AGP Video Card.....\$45  
Geforce 2 mx400 64M.....\$55  
(with TV out.....\$65)  
**ATI Radeon**  
7000 64M sd / ddr.....\$59/89  
7500 64M sd / ddr.....\$79/89  
9000Pro 128M (OEM).....\$159  
9000Pro 128M (Retail).....\$209  
**ATI All-in-Wonder 64M**  
Radeon 7500(Retail).....\$199  
Radeon8500DV(Retail).....\$289  
**Asus Geforce 4**  
64M mx420 / 440.....\$109 / 129  
Ti4200 128M (8xAGP).....\$269  
**MSI Geforce 4**  
mx440 64M ddr Tvout.....\$99  
Ti4200 128M (8xAGP).....\$279  
Ti4600 128M VIVO.....\$399  
**Fax Modem(56k/v90)**  
USR win / Gneric.....\$30/19

#### DVD & CDRWs

MSI / LG 48X CDRW.....\$79  
LG 32xCDRW/16xDVD.....\$115  
LG / Sony 16X DVD.....\$59  
LG DVD / CD Burner.....\$399  
100pcs CD Spindle.....\$39  
**Hard Drives (7200r)**  
30 / 60 / 80G.....\$109/135/159  
80 / 120G (8M).....\$185/279

#### Mother Boards

**AMD CPUs:**  
FIC Az11 (SD RAM).....\$49  
ECS K7S5A (sd/ddr).....\$85  
Asus A7V266C(ddr).....\$95  
Asus A7V333X(ddr).....\$139  
**Intel CPUs:**  
Aopen AXT411 (RD).....\$69  
ECS P4VXASD2(sd/ddr).....\$79  
Asus P4SE(ddr).....\$109  
Asus P4S533(ddr).....\$159  
Asus P4T533C(RD).....\$249

#### Logitech Devices

QuickCam  
Express  
**\$29.99**



Cordless Mouse &  
Keyboard Combo **\$59**

Samsung  
Digital  
Camera  
3.2M Pixels

Digimax 340  
**\$419**

#### Upgrade Combo

1. FIC Az11 Board  
+ 128M SDRAM  
+ Duron 1300  
**\$159**
2. ECS P4VXASD2  
+ 128M SDRAM  
+ CPU  
P4-1.7G **\$329**  
or P4-2.0G **\$389**
3. Asus P4T Board  
+ 256M RDRAM  
P4-1.5G **\$339**
4. Aopen AX4TII Board  
+ 256M RDRAM  
P4-1.7G **\$379**

Prices already 4% cash discounted  
& subject to change without notice

# Echo Means Business.

Since 1995 Echo Online has provided thousands of GTA Businesses, both large and small, with the tools and plans to enable them to fulfill their Internet related goals. We offer competitively priced plans, a state-of-the-art Network with lots of bandwidth, knowledgeable Corporate Account Representatives, and some unbeatable monthly specials! Here's just a sample of our account options:

## Corporate High Speed DSL Plans

PPPoE DSL Plans	Static IP	Unlimited Access	Transfers /Month**	Virtual Host	E-Mail Addresses	Web Space	Dial-Up Access	Modem Included	Set-Up Fees	Monthly Fees
Business Basic 1.5	N	Y	10GB	N	10	N/A	30 Hr/mth	N	N/A	\$59.95
Business Bronze 1.5	Y	Y	20GB	Y	10	100MB	30 Hr/mth	N	\$150.00	\$99.95
Business Silver 1.5	Y/5	Y	25GB	Y	10	100MB	50 Hr/mth	N	\$150.00	\$149.95
Business Gold 1.5	Y	Y	50GB	Y	10	100MB	100 Hr/mth	Router	\$150.00	\$199.95
Business 3Mb	Y	Y	20GB	Y	10	100MB	30 Hr/mth	N	\$150.00	\$169.95

For a limited time get the Business 3Mb PPPoE service for HALF price!

VLAN DSL Plans	Static IP	Unlimited Access	Transfers /Month**	Virtual Host	E-Mail Addresses	Web Space	Dial-Up Access	Modem Included	Set-Up Fees	Monthly Fees
Business Basic 3Mb	Y	Y	15GB	N	5	N/A	30 Hr/mth	Y	N/A	\$224.95
Business Bronze 3Mb	Y	Y	20GB	Y	10	100MB	30 Hr/mth	Y	\$275.00	\$249.95
Business Silver 3Mb	Y/5	Y	25GB	Y	40	100MB	50 Hr/mth	Y	\$275.00	\$299.99
Business Gold 3Mb	Y/5	Y	50GB	Y	50	100MB	100 Hr/mth	Router	\$275.00	\$349.95

## Virtual Hosting Plans

Virtual Hosting	Platform	Web Space	POP 3 E-Mail	Alias	Auto Responder	PERL	PHP	ASP/VB Script	FrontPage	SSI	SSL	MS Access	MY SQL	Set-Up Fee	Monthly Rate	Yearly Rate
Plan 1	UNIX	5 Mb	2	1	1	UNIX/NT	UNIX	N/A	Included	Included	Extra	Included	Extra	\$25.00	\$13.49	\$8.95/mo.
Plan 2	UNIX/NT	20 Mb	10	10	2	UNIX/NT	UNIX	NT	UNIX/NT	UNIX/NT	Extra	UNIX/NT	Extra	\$30.00	\$17.49	\$11.94/mo.
Plan 3	UNIX/NT	50 Mb	20	20	3	UNIX/NT	UNIX	NT	UNIX/NT	UNIX/NT	Extra	UNIX/NT	Extra	\$40.00	\$22.49	\$14.95/mo.
Plan 4	UNIX/NT	100 Mb	50	50	10	UNIX/NT	UNIX	NT	UNIX/NT	UNIX/NT	UNIX/NT	UNIX/NT	50 Mb	\$75.00	\$75.00	\$50.00/mo.
Plan 5	UNIX/NT	200 Mb	75	75	25	UNIX/NT	UNIX	NT	UNIX/NT	UNIX/NT	UNIX/NT	UNIX/NT	75 Mb	\$115.00	\$115.00	\$75.00/mo.
Plan 6	UNIX/NT	500 Mb	100	100	50	UNIX/NT	UNIX	NT	UNIX/NT	UNIX/NT	UNIX/NT	UNIX/NT	100 Mb	\$150.00	\$150.00	\$100.00/mo.

We also offer the best deals on Server Co-Locations, T1, ISDN and Dial-Up Access! Please call our Corporate Sales Department for details.



**416-385-0459**

<http://www.eol.ca>

**Serving the GTA since 1995!**

**2600 Skymark Ave., Building 9 Suite 201, Mississauga, Ontario L4W 5B2**

(C) 2002 Echo Online Internet Inc. All Rights Reserved. Prices subject to change without notice. Taxes NOT included.

# ICCT

TORONTO	NORTH YORK	MARKHAM
<p>396 College St. TEL: 416-921-0702 FAX: 416-921-9938 MON-FRI: 10:30-19:30 SAT: 9:30-18:00 SUN: 11:00-17:00</p>	<p>201 Sheppard Ave. E. TEL: 416-224-5553 FAX: 416-224-2678 MON-FRI: 11:00-20:00 SAT: 9:30-18:00 SUN: 11:00-17:00</p>	<p>20 Crown Steel Dr. #16 TEL: 905-513-8935 FAX: 905-513-8717 MON-FRI: 10:30-19:30 SAT: 9:30-18:00 SUN: 11:00-17:00</p>

[Http://www.icct.ca](http://www.icct.ca) & Toll free: 1-866-549-ICCT(4228)

## OFFICE STAR \$379

INTEL CELERON @  
1.3A GHZ  
MSI MS-6368 MOTHERBOARD  
128MB SD-RAM PC-133  
52X MAX CD-ROM  
3D GRAPHIC CONTROLLER  
20GB HDD ATA-100  
1.44 FLOPPY DRIVE  
ATX MID TOWER WITH FRONT  
USB & 350W POWER  
AC'97 SOUND CONTROLLER  
10/100MB NETWORK CARD  
WINDOWS KEYBOARD  
ELITECH 2 BUTTON MOUSE  
ELITECH EB693S SPEAKER  
RECOMMENDED UPGRADES:  
17in SAMSUNG/SAMTRON  
76V (16in V.LS) +\$165  
256MB PC-133 +\$21  
250MB ZIP INT. +\$109  
48X12X48 CD-RW +\$39

## TORNATO \$487

INTEL Celeron @  
1.7 GHZ (S478)  
ASUS P4BGL-VM-L M/B  
128MB DDR PC-2100  
INTEL EXTREME GRAPHIC  
48X10X48 CD-RW  
20GB HDD ATA-100  
1.44 FLOPPY DRIVE  
ATX MID TOWER WITH FRONT  
USB & 350W POWER  
10/100MB NETWORK CARD  
16BIT SOUND CARD  
WINDOWS KEYBOARD  
ELITECH 2 BUTTON MOUSE  
ELITHCH EB-693 SPEAKER  
RECOMMENDED UPGRADES:  
256MB DDR PC-2100 +\$33  
40GB MAXTOR HDD @  
7200RPM ATA-133 +\$31  
LG 32X10X40 CD-RW & 16X  
DVD-ROM COMBO +\$49

## VALUE PLUS \$659

INTEL P4 1.8A GHZ  
GIGABYTE 8IE533 (i845E)  
256MB PC-2100 DDR-RAM  
NVIDIA GF2 MX400 64MB DDR  
20GB HDD ATA100  
1.44 FLOPPY DRIVE  
52X MAX CD-ROM  
ATX MID TOWER WITH FRONT  
USB & 350W POWER  
16BIT SOUND CARD(ONBOARD)  
WINDOWS KEYBOARD  
ELITECH MOUSE WITH WHEEL  
ELITECH EB693S HIFI SPEAKER  
RECOMMENDED UPGRADES:  
17in SAMSUNG 753DF .20h  
& FLAT SCREEN +\$197  
16X LG DVD-ROM +\$29  
40GB MAXTOR HDD AT  
7200RPM & ATA-133 +\$29

## SUPER PLAY \$619

AMD ATHLON XP 1800  
MSI KT3 ULTRA(VIA KT333)  
256MB PC-2100 DDR-RAM  
XFX GF4 MX 64MB DDR  
40GB HDD ATA100  
1.44 FLOPPY DRIVE  
52X MAX CD-ROM  
10/100MB NETWORK CARD  
ATX MID TOWER WITH FRONT  
USB & 350W POWER  
16BIT SOUND CARD  
WINDOWS KEYBOARD  
ELITECH MOUSE WITH WHEEL  
EB-600W SPK W/SUBWOOFER  
RECOMMENDED UPGRADES:  
256MB **DDR333** +\$19  
40GB WD HDD @ 7200RPM  
8MB CACHE +\$19  
48X12X48 CD-REWRITER  
& SOFTWARE +\$39

## COOL VALUE \$659

INTEL P4 1.7 GHZ  
GIGABYTE 8PE667 (i845PE)  
256MB DDR PC-2100  
NVIDIA GF2 MX400 64MB DDR  
20GB HDD ATA-100  
1.44 FLOPPY DRIVE  
ATX MID TOWER WITH FRONT  
USB & 350W POWER  
52X MAX CD-ROM  
16BIT SOUND CARD (ON BOARD)  
10/100MB PCI NETWORK CARD  
WINDOWS KEYBOARD  
ELITECH MOUSE WITH WHEEL  
600W SPK W/SUBWOOFER  
RECOMMENDED UPGRADES:  
256MB **DDR333** +\$19  
40GB MAXTOR HDD @  
7200RPM ATA-133 +\$31  
XFX GF4 Mx440 64MB DDR  
WITH TV-OUT +\$39

## GRAND P4 \$1529

INTEL P4 2.53GHZ FSB533  
MSI 648MAX 8XAGP  
512MB DDR-266 & 40GB 7200RPM  
XFX GF4 MX440 64MB AGP8X  
350W ATX MID TOWER FRONT USB  
1.44 FDD & 16X DVD-ROM  
10/100 PCI NIC  
15 LCD MONITOR  
16BIT PCI S/C (ON BOARD)  
K/B & OPTICAL MOUSE & 600W SPK W/SUB  
RECOMMENDED UPGRADES:  
17in SAMSUNG LCD TFT +\$241  
XFX GF4 Ti4200 128MB AGP 8X  
+\$121

## POWER P4 \$1079

INTEL P4 2.4B GHZ FSB 533  
GIGABYTE 8PE667 (i845PE)  
256MB **DDR333**  
XFX GF4 MX440 64MB DDR  
40GB HDD ATA-100 & 1.44FDD  
350W ATX MID TOWER FRONT USB  
48X12X48 CD-RW  
AC'97 SOUND & 10/100 NIC  
17 FLAT SCREEN MONITOR  
K/B & SCROLL MOUSE & 600W SPK W/SUB  
RECOMMENDED UPGRADES:  
15in SAMSUNG LCD +\$241  
52X24X52 LITEON CD-RW +\$39  
512MB DDR PC-2700 +\$87

## GRAND XP \$1509

AMD ATHLON XP 2400+  
MSI KT4VL (AGP8X DDR400)  
512MB **DDR333**  
XFX GF4 MX440 64MB AGP8X  
40GB 7200RPM ATA-100  
1.44 FDD & 6 CHANNEL S/C (ON BOARD)  
ATX MID TOWER FRONT USB 350W  
48X12X48 CD-RW & 16X DVD  
10/100 NIC & 15 LCD MONITOR  
K/B & OPTICAL MOUSE & EB-600 SPK  
RECOMMENDED UPGRADES:  
17in SAMSUNG LCD TFT +\$239  
XFX GF4 Ti4200 128MB AGP8X +\$121  
MSI K7N2 nFORCE2 AGP8X DDR400 +\$155

Boxing !!! Can not Miss !!!

**BRAMPTON**  
BARTLEY BULL PKWY.  
MAIN ST.  
STEELES AVE.

1 BARTLEY BULL PKWY. #24  
TEL: 905-460-1339  
FAX: 905-460-0464  
MON-FRI: 10:30-19:30  
SAT: 9:30-18:00  
SUN: 11:00-17:00

# Beat Any Advertised Price

## LIMITED OFFER - LOWER THAN EVER

LG 52X24X52 CD-REWRITER WAS \$99.99

**NOW ONLY \$49.99**

ALTECLANSING PC MUSIC AVS 300 WAS \$69.99

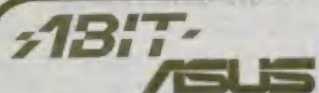
**NEW ONLY \$31.99**

LIMITED ONE ITEM PER CUSTOMER, QUANTITIES LIMITED!!!

## SAMSUNG SPECIAL

15 150S LCD TFT SILVER	\$417
15 151S LCD TFT SILVER	\$437
17 SAMTRON 76V (16 V.I.S)	\$167
19 955DF FLAT SCREEN	\$339
ML1440 LASER PRINTER 8MB CACHE	\$299

PRICE MAY VARY WITH CPU SYSTEMS ONLY. LIMITED ONE PER CUSTOMER. OFFER VALID UNTIL 12/31/01.

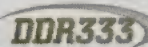
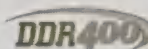
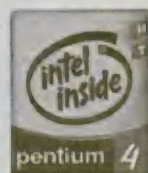


## THE MOTHERBOARD STORE



### SOCKET 478 (INTEL P4 CPU)

ASUS P4T 533-C/L	\$241
ASUS P4T533 (32BIT RAM-BUS)	\$251
ASUS P4B533-E W/AUDIO/LAN/RAID	\$219
ASUS P4B533	\$167
ASUS P4B533VM	\$141
ASUS P4B GL-VM-L	\$131
ASUS P4S-533 WA	\$145
ASUS P4S-533-MX (DDR/SD-RAM, LAN)	\$125
ASUS P4GE-VL I845GE/DDR333/HT	\$215
ASUS P4S8X AGP8X	\$189
ASUS P4PE FSB 533 DDR-333/DELUX \$179/	\$221
ASUS P4G8X DELUXE (AGP8X, 1394)	\$299
ABIT BE7 / RAID I845PE DDR-333	\$165/\$191
ABIT BD7II / RAID 533FSB DDR	\$139/\$163
ABIT IT7-MAX2 FSB533 1394/USB2.0	\$269
ABIT IT7-MAX2 I845PE V2 1394/SATA/RAID	\$259
MSI E7205 MASTER-L 8XAGP GIGALAN	\$299
MSI 845PE MAX2-FISR (LAN/1394/RAID)	\$237
MSI 648MAX-L (M6585 8XAGP)	\$131
MSI GNB MAX-FISR (E7205) 1394/GIGALAN	\$359
MSI 845E MAX FSB533	\$129
EPOX 4BEAV FSB533	\$145
EPOX 4PEA+ (I845PE/IDE RAID/LAN)	\$229
EPOX 4SDA5+ (8XAGP/DDR333/RAID)	\$205
EPOX 4GEAE I845GE/DDR333/HT	\$173
GIGABYTE GA-8SR533P (533FSB, DDR333)	\$101
GIGABYTE GA8IE533	\$119
GIGABYTE GA-8PE667 (I845PE)	\$129
GIGABYTE GA-8PE667 ULTRA (IDE RAID)	\$193
GIGABYTE GA-8PE667 ULTRA2 (FULL)	\$215
GIGABYTE GA-81HXP RAM-BUS PC-1066	\$253
GIGABYTE GA-8INXP (E7205) AGP8X/SATA	\$325



### SOCKET A (AMD CPU)

ASUS A7S 333	\$104
ASUS A7V8X (VIA KT400/AGP8X)	\$159
ASUS A7V8X-RAID	\$209
ASUS A7N8X DELUX (nFORCE2 AGP8X)	\$213
ASUS A7N8X PURE	\$179
ABIT KD7 (VIA KT400/AGP8X)	\$145
ABIT KD7-E (VIA KT333 USB2.0)	\$125
ABIT KD7-G 8XAGP/SATA/GIGALAN	\$219
ABIT KX7-333 VIA K1333	\$127
ABIT KD7-S (8XAGP DDR400 USB2.0 SATA)	\$189
ABIT AT7 MAX2 (VIA K1400 8XAGP)	\$259
ABIT N7 nFORCE2 AGP8X/DDR400/6.1	\$169
ABIT NF7-S nFORCE2	\$189
GIGABYTE GA-7VAX (VIA K1400)	\$123
GIGABYTE GA-7VAXP (VIA K1400 W/RAID)	\$159
GIGABYTE GA-7VAXP ULTRA (1394/SATA)	\$174
MSI K7N2G-L nFORCE2/AGP8X/DDR400	\$189
MSI KT4VL (VIA KT400 8XAGP DDR400)	\$123
MSI KT4 ULTRA (VIA KT400 8X AGP)	\$151
MSI KT4 ULTRA-SR (SERIAL ATA)	\$185
MSI KT3 ULTRA-2 DDR333 (VIA K1333)	\$113
MSI K7N2 nFORCE2 AGP8X DDR400 LAN	\$155
EPOX EP-8K9A2+ (VIA KT400 AGP8X)	\$209
EPOX EP-8K9A (VIA KT400 AGP8X)	\$141
EPOX EP-8RDA+ (nForce2 DDR400 8XAGP)	\$179



### SERVER BOARD

ASUS A7M266-DL	\$329
TYAN S2468N TIGER MPX DUAL AMD MP	\$339
TYAN S2468 TIGER MP DUAL AMD MP	\$269
TYAN S2468 TIGER MP DUAL AMD MP	\$599
TYAN S2468 TIGER MP DUAL AMD MP	\$589
TYAN S2468 TIGER MP DUAL AMD MP	\$679
TYAN S2668 THUNDER I7500 DUAL XEON	\$699
TYAN S2721 THUNDER I7500 PRO XEON	\$819
TYAN S2721 THUNDER I7500 PRO XEON	\$699
TYAN S2720 THUNDER I7500 DUAL XEON	\$629
TYAN S2603 THUNDER I860 DUAL XEON	\$1109

### MAX INTEL PERFORMANCE

#### INTEL DESKTOP BOARD:

D845GEBV2 I845GE 533FSB/DDR333/HT	\$169
D845PESV I845PE 533FSB/DDR333/HT	\$159
D845PEBT2 I845PE SATA/HT	\$199

ALL INTEL DESKTOP BOARD ARE COME WITH AUDIO AND INTEL CHIP SET NETWORK CARD.

#### INTEL SERVER BOARD:

S845WDI-E	\$299
FOR PENTIUM4, FSB533, DUAL INTEL LAN, ATA100 RAID, ATI RAGE XL VIDEO, 3X32BIT PCI	
SE7500CW2	\$599
DUAL XEON, DUAL CHANNEL DDR, DUAL INTEL LAN, ATA RAID, ATI RAGE XL VIDEO, ECC-RAM	
SE7500WV2	\$999
DUAL XEON, HT, DUAL GIGA LAN, OPTIONAL DUAL CHANNEL ULTRA 160 SCSI OR ATA-100	
SHG2	\$1079
DUAL XEON, DUAL CHANNEL ULTRA 160 SCSI	

### SOFTWARE:

USE MICROSOFT WINDOWS XP AS YOUR OS AND ENJOY THE LATEST FEATURES.

WINDOWS XP HOME EDITION	\$139
WINDOWS XP PROFESSIONAL EDITION	\$229
OFFICE XP SMALL BUSINESS EDITION	\$299
OFFICE XP PROFESSIONAL EDITION	\$479
NORTON ANTIVIRUS 2003	\$49.99



SOFTWARE PURCHASE MADE WITH NEW PC SYSTEM ONLY, NO REFUND OR EXCHANGE POLICY ON ANY SOFTWARE.

### PINTERS:

HP DESKJET 3320	\$75
HP PHOTOSMART 7150	\$189
HP LASERJET 1000	\$339
HP LASERJET 1200N (NETWORK PRINTER)	\$819
LEXMARK Z25	\$73
LEXMARK Z35 (\$30 MAILING REBATE)	\$92

Canon

LEXMARK

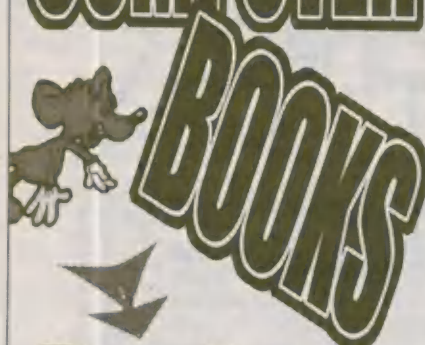


# ICCT



ALL BRANDS AND PRODUCT NAMES ARE TRADEMARKS OR REGISTERED TRADEMARKS OF THEIR RESPECTIVE COMPANIES. ALL PRICES AND CONFIGURATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE OR OBLIGATION. ALL PRICES ARE ALREADY 4% CASH DISCOUNTED. 8425JAN03\_2PP\_R1

# COMPUTER



## Register

at **Pcmaniak**  
**.com**

**Insane Prices**

**Online Shopping**

**FREE!**  
**FREE!**

## BOOKS FOR A Year!

**OR GO TO OUR LOCATIONS**

**Downtown:**  
**(416) 593-4845**  
**Mississauga:**  
**(905) 602-9901**

**PC MANIAK**

REVIEWS

By DAVID TANAKA

The Consumer Electronics Show has become the must-attend venue for any self-respecting digital technology enthusiast. Consumer electronics covers a huge array of products, but the effects of digital convergence could be seen nearly everywhere, from MP3 car stereos, to full-blown PCs camouflaged as stereo components, to Internet-enabled appliances.

One indicator that the computer industry and the consumer electronics sector are partying together is that both Microsoft co-founder, Bill Gates, and Intel CEO, Craig Barrett, were CES keynote speakers – and predictably both were talking about the central role that digital data and PCs have in tomorrow's consumer electronics developments. Another indication was the number of companies exhibiting that would be just as comfortable at a computer-specific show like Comdex. Following are some of the products we noted during our floor crawl.

### Good sound from Axiom

Axiom Audio, an Ontario-based speaker manufacturer, won an Audio Product of the Year award for its home theatre system, the Epic Grand Master. The award was presented during CES and was given by onhometheater.com, an online publication catering to audio, video and movie enthusiasts. The Grand Master speaker system comprises right, left and centre speakers, two surround speakers and a subwoofer. Suggested retail price is under \$2,400.

### PowerCore: When neatness counts

If the area around your computer system is a tangle of wires and connectivity devices, the GoldX PowerCore System from JDI Technologies ([www.jditech.com](http://www.jditech.com)) might help you reclaim your workspace. It's a stackable modular connection system. The base unit is a small uninterruptible power supply, but the unusual part of it is that it also contains a 56-watt DC power supply. Other connectivity hubs (USB, FireWire, Ethernet, etc.) can be stacked onto the base unit,

## A cacophony of convergence at CES



Solarpak for Game Boy



WristPDA



Prodikeys



JukeBox Zen

and draw electrical power from the base unit, so that they do not

have to be powered by separate bricks, reducing cable clutter. The company claims that the base unit will supply power for up to 16 USB or 12 FireWire ports.



Weatherhawk



PowerCote

**Ears wide open at Creative Labs**  
In the heyday of the Comdex computer trade shows, Creative always had one of the loudest and busiest booths, and at this year's CES, it was clear that the company was at it again, announcing several new products.

With the acquisition of high-end audio and speaker companies a few years ago, Creative set out to eliminate the gap between PC sound and audiophile sound, and its latest SoundBlaster Audigy 2 Platinum eX takes another step towards that. The Platinum eX version is a two piece system – the Audigy 2 PCI sound card and an external break-out box with a slew of connections (FireWire, optical SPDIF, MIDI, and analogue) that resembles the company's Extigy external SoundBlaster for notebooks. The Audigy 2 is THX-certified, and also supports 6.1 Dolby Digital EX movies with a rear centre speaker. Creative claims the Audigy 2 is the first PC sound card to support DVD-Audio, and we were treated to a side-by-side comparison of the Eagles' "Hotel California" on CD and DVD-Audio. It sounded like a completely different recording, but Creative said it was the 24-bit 96 KHz of DVD-Audio, which delivers more audio data.

Other announcements by Creative:

- **Prodikeys**, which combines a computer keyboard and a 37-key musical keyboard. The music keyboard is located below the ASCII keyboard, and when doing computer-related tasks, the user can put a cover on the musical keyboard, the cover acting also as a wrist support.

- **TravelSound MP3**, a portable speaker system that also includes an MP3 player and a voice recorder. The unit has 32 MB of onboard memory plus a SmartMedia card slot.

- **JukeBox Zen with USB 2.0**. The previous hard-drive based Zen model (rectangular design like the iPod only bigger, in contrast to the CD-player shaped Nomad) had USB 1.1 and FireWire, and that model will be joined by a 20 GB model with USB 2.0.

- **Graphics Blaster Picture Perfect**. This product won't be shipping until later this spring, but Creative is working with ArcSoft to develop image editing applications that use the graphics

processor on the card, or what Creative calls the "visual processing unit," to speed up tasks such as stitching together a series of images into a panorama.

#### A weather station in your home

If you think the weather channel doesn't do a good enough job of reporting on the microclimate around your humble abode, why not set up your own weather station? WeatherHawk (www.weatherhawk.com), based in Logan, Utah, was showing its line of wired and wireless weather stations designed for home and educational use. The unit

requires mounting on a tower or pole, and includes sensors for wind speed and direction, air temperature, relative humidity, solar radiation, barometric pressure and rainfall. Included software keeps a log of the sensor readings, and also will calculate variables like wind chill and heat index. Optional software will also allow users to link their own weather station on a free (for now) Web hosting site, and then check on their weather from any Web browser.

The wired version connects to a computer through the serial (RS-232) port, and the wireless versions operate on 916 MHz, 922 MHz or 2.4 GHz radio bands.

#### Let the sun shine on Game Boy

Winner of a CES 2003 "most innovative product of the year" award is Sunpower Systems Inc. (www.sunpower.com) of Canoga Park, Calif., for its Solarpak solar recharger/battery pack for the Nintendo Game Boy. The company also makes a PDA case with a built-in solar panel charging unit, cell phone batteries with an embedded solar charger, and small standalone solar panels with a modular connector system with plugs for specific devices.

#### Palm your wrist

Fossil (www.fossil.com) had a line of

wristwatches that have a Palm organizer built in. The Wrist PDA, as Fossil calls it, has a 33 MHz Dragonball VZ processor built in, which uses Palm OS 4.1. The screen will display 160x160 pixels and supports 16 grey levels, but rather than showing a full Palm screen on the tiny display, the watch shows fewer icons and less screen information, but at a size close to what you'd get on a regular Palm device. The watch has 2 MB of RAM, and will connect to a PC through USB. It also includes an infrared port, so users can beam information back and forth with other Palm devices. ♦

# infonec

## Computers

**Office 302**  
ECS K755A ATX MB  
SIS Chipset  
Onboard Sound & Lan  
128MB PC266 DDR SDRAM  
SEAGATE 40G U100 7200rpm HD  
Rage128 Pro 32M SDR AGP  
LG 52X Cd-Rom  
PANASONIC 1.44M Floppy  
Medium ATX Case w/300W  
Windows 104 Keys PS/2 KB  
LOGITECH Wheel Mouse  
Stereo Speakers

Duron 1.3Ghz -----\$545  
XP1800+ 1.53Ghz ----\$565  
XP2000+ 1.60Ghz ----\$589  
XP2100+ 1.67Ghz ----\$609

**Supreme 302**  
MSI KT4V-L MB  
KT400 Chipset  
Onboard Sound & Lan  
256MB PC2100 DDR SDRAM  
MAXTOR 40G U133 7200rpm HD  
MSI GF4 MX440-8X 64MB DDR TVO  
LG 32x10x40/16X CDRW/DVD Rom  
ALTEC LANSING AVS300 Subwoofer  
PANASONIC 1.44M Floppy  
Medium ATX Case w/300W  
MITSUMI Internet KB  
LOGITECH Wheel Mouse  
MICROSOFT Windows XP Home

XP1800+ 1.53Ghz ----\$965  
XP2000+ 1.67Ghz ----\$989  
XP2100+ 1.73Ghz ----\$1009  
XP2400+ 2.0Ghz ----\$1149

**MARKHAM**  
505 Hood Road, Unit 13  
Markham, ON L3R 5V6  
TEL: 416-410-5481  
FAX: 905-305-6807  
Mon-Fri 10:00-7:30  
Sat 10:00-5:00

Government & Company PO are welcomed Leasing is available upon request

416-410-5481

www.infonec.com

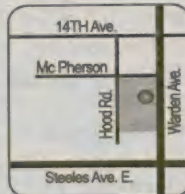
sales@infonec.com

**Home 302**  
ASUS P4B533VM-L MB  
Intel(r) 845G Chipset MicroATX  
Onboard Sound, Video, Lan  
128MB PC2100 DDR SDRAM  
SEAGATE 40G U100 7200rpm HD  
LG 16X DVD Rom  
PANASONIC 1.44M Floppy  
Medium ATX Case w/P4 300W  
Internet KB & Wheel Mouse Combo  
ALTEC AVS200 Stereo Speakers

Celeron 1.7Ghz -----\$605  
Celeron 1.8Ghz -----\$629  
Celeron 2.0Ghz -----\$655  
Pentium4 1.7Ghz -----\$715

**Xtreme 302**  
ASUS P4PE-L ATX MB  
Intel(r) 845PE Chipset  
Onboard Lan, Sound, USB2.0  
256MB PC2100 DDR  
MAXTOR 40G U133 7200rpm HD  
ASUS V9180TD GF4 MX440-8X 64M  
SONY 16X DVD Rom  
ALTEC AVS300 Subwoofer  
PANASONIC 1.44M Floppy  
ATX Case w/P4 300W  
MICROSOFT MM Internet KB  
MICROSOFT Optical Mouse  
MICROSOFT Windows XP Home

INTEL(r) Pentium(r) 4 Processor  
Intel P4 1.8AGHz-----\$1125  
Intel P4 2.0AGHz-----\$1155  
Intel P4 2.40BGHz-----\$1198  
Intel P4 2.53BGHz-----\$1265



**MISSISSAUGA**  
400 Matheson Blvd. E., #6  
Mississauga, ON L4Z 1N8  
TEL: 416-410-5481  
FAX: 905-507-8141  
Mon-Fri 10:30-7:00  
Sat 10:30-3:30

### SPECIALS CORNER

ATI AiW Radeon9700

128M DDR Retail  
\$599

SAMSUNG ML-1440  
15ppm 8M 600dpi

\$319

MAXTOR 60G  
U133 7200rpm 2M  
\$135

#### MOTHERBOARDS

ABIT IT7-Max2/AT7-Max2 \$269/269  
ABIT KD7-EKD7/KD7-RAID \$129/159/175  
ABIT BE7-RAID \$149/189  
ABIT SR7-SXNFY-S \$145/195  
ASUS P4PE-L SLI-GBL \$189/225/229  
ASUS P4S8XGold/P4GE-V \$195/218  
ASUS P4B533-EL \$175/219  
ASUS P4B533-VL/VML \$229/165  
ASUS P4T533-CL \$259/249  
ASUS P4S533-EL/VML \$149/165/125  
ASUS AT7N8X/Deluxe \$189/219  
ASUS AT7N8X/SGBL \$179/199/225  
ASUS AT7S33/AT7/333-X \$109/135  
ASUS AT7M260 w/Lan \$325  
ECS K755A/K755A \$69/89  
ECS P4VXASD2-VL TYRM \$69/89  
EPOX EP-AGAMA/G4A \$195/165  
EPOX EP-8RDA/BK5A2+ \$179/165  
INTEL 845P/EBT2/845EP/2 \$199/149  
INTEL 850EMV/2/850EMV \$229/235  
MSI KT4 Ultra-SRKT4V-L \$179/129  
MSI 639E Max2-LR-BLR \$199/249  
MSI 688S-SIS848 Max-L \$165  
TYAN S1854 S1854 P3 \$135  
TYAN S2507T Dual P3 \$175  
TYAN TigerMPX DualAMD \$335  
SUPERMICRO P4DCE+ \$665

#### CPU & RAM

INTEL Xeon/Pentium4/Pentium3/Celeron AMD Athlon MP/XP/Duron Check on web  
RAM / Compact Flash / SmartMedia PC-1066/PC-800 RIMM Check on web  
PC400/PC333/PC266 DDR Check on web  
PC-133/PC-100 SDRAM Check on web

#### ACCESSORIES

LOGITECH Cordless Etc. Dvd Optical \$125  
LOGITECH Cordless Camcorder Optical \$125  
LOGITECH MX700/MX500 Mouse \$105/75  
MICROSOFT Natural MM KB retail \$79  
MICROSOFT Multimedia KB retail \$49  
MICROSOFT Vite Explorer retail \$89  
MICROSOFT IntelliOptical retail \$69  
WACOM Graphire2 4x5 Tablet \$135  
WACOM Intuos2 4x5 Tablet \$289

#### HARD DRIVE

MAXTOR 200/160/80/60 (8M, U133) \$506/409/215/179  
120/80/60 (2M, U133) \$229/159/135  
40/30 (2M, U133) \$125/105  
60/120/200G PW/USB2 7200 \$279/399/579  
250G ext. FW/USB2 5400 \$695  
ATLAS 10K3 U320 7336/18 \$829/389/279  
ATLAS 10K3 U160 7336/18 \$765/355/259  
WESTERN DIGITAL 200/120/80/40 (8M, U100) \$469/289/189/139  
200/120/80/60 (2M, U100) \$429/249/159/149  
SEAGATE Barracuda Serial ATA V drives Coming Soon  
Barracuda V 120/80/60 \$239/178/145  
Barracuda ATA IV 80G/60/30 \$189/139/125  
Cheetah X15 73G/36G/18G U320 \$1075/559/349  
Cheetah 148G/73G/36G U320 \$1479/799/345  
IBM 60/120G (7200, U100) \$149/269  
USB Drive V-Drive 64M/128M/256M \$55/85/155  
LACIE Storage Products Call for Prices

#### CONTROLLERS

ADAPTEC RAID 1200A/2400A/2100S Kit \$99/509/629  
39320D-R Kit / 39320-R Kit \$509/439  
39160/29160/19160 Kit \$515/405/329  
TEKRAID DC390U3W/395U/315 Kit \$289/754/9  
PROMISE SATA 150 TX2/TX4 \$69/110  
FastTrack T20000 U133 RAID/Pro \$149/309  
Ultra133 / Ultra100 Tx2 W/ \$75/55  
FastTrack SX4000 4-Ch RAID5 \$235  
SuperTrak SX6000 6-Ch RAID 5 \$425  
LAVA USB 2.0 / 1.1 Dual Ports PCI \$79/39  
USB 2.0/Firewire ext. box \$119/119  
Serial PCI/Dual Parallel PCI \$69/69  
IOGEAR GCS82 2 ports KVM PS/2 \$79  
GCS12 2 ports KVM PS/2 \$109  
GCS14 4 ports KVM PS/2 \$179  
GCS84A 4 ports KVM PS/2 \$199  
BELKIN OmniView SOHO 4 ports KVM/PS2 w/audio \$179

#### VIDEO CARDS

ATI (Sapphire) AW Radeon 9700 Pro 128M box/oem \$599/589  
Radeon 9700 128M box/oem \$549/535  
Radeon 9500 Pro 128M box/oem \$299/275  
Radeon 9000 Pro 128M/64M \$159/145  
Radeon 9000 128M/64M \$139/115  
AW Radeon 8500 128M DDR box/oem \$409/389  
AW Radeon 8500V 64M DDR box/oem \$279/259  
Radeon 8500LE 128M DDR box/oem \$199/185  
Radeon 7500 64M DDR DVI \$149  
Radeon 7000 64M DDR DVI \$89  
Radeon 7000 64M DDR TVO \$75  
Rage128 Pro 32M AGP \$45  
TV Wonder PCI/USB box \$99/105  
ASUS V8280S/TV D1200-8X 128M VIVO \$325  
V8280T/TV D1200-8X 128M VIVO \$245/205  
V8180VS MX440-8X VIVO \$179  
V8180T MX440-8X VIVO \$129  
V8170DDR MX440-8X VIVO \$105  
ABIT Siluro GF4 T4200-8X 128M OTES \$269  
Siluro GF4 T4200 64M TVO OTES \$199  
MATROX Parhelia 512 128M Triple Head \$499  
G550/G480 32M DDR Dual-Head \$165/135  
G460-eTV retail \$325  
3DLabs Wildcat V60 760/70/970 \$695/695/1895  
Oryon VX-1 32M AGP4X \$149  
MSI GF4 T4800-8X 128M VIVO \$459  
GF4 T4200-8X 128M VIVO \$279  
GF4 T4200-8X 64M TVO \$225  
GF4MX440 TDBX 64M VIVO \$179  
GF4MX440 TDBX 64M DVI-TVO \$165  
GF4MX440 TDBX 64M TVO \$118

#### MODEMS

3COM V.90 56K Hardware w/Voice \$70/79  
V.90 56K Winmodem w/Voice \$37/42  
MSI V.92 56K DFE/PCI PX \$45  
V.92 56K DFE PCI Winmodem \$27  
ROCKWELL/INTEL V.90 56K DFE Winmodem PCI \$19  
GVC DSL internal/external modem \$105/99

#### MULTI-MEDIA

CD/DVD ROM DRIVE ASUS/SONY/LG 52X \$45/39/35  
TOSHIBA/SONY 16X DVD \$69/65  
PIONEER 16X DVD Slot/Trey \$75/69  
DVD RW DRIVE SONY DRU500 DVD+R/RW Int/ext \$549/679  
PIONEER DVD-RW IDE oem/box \$409/439  
HP 2001 DVD+RW IDE/Ext \$499/599  
CD-RW DRIVE ASUS 48x16x48 CDRW \$89  
LG 48x24x48 CDRW \$79  
LG 52x24x52 CDRW \$115  
LG 32x10x40/16X CDRW/DVD Combo \$89  
AOPEN CRW48x12x50 WH/BLK \$89/95  
SONY 48x10x40 CDRW \$89  
LITEON 48x24x48 CDRW WH/BLK \$79/89  
PLEXTOR 48x24x48 K9 WH/BLK \$155/175  
PLEXTOR 20x10x40 K9 PlexCombo \$225  
YAMAHA CRW-F1 w/ht/bk \$159/159  
YAMAHA CRW-F1 ext/USB2 \$265  
SOUND CARD SB Audigy 2! Platinum \$175/285  
SB Extigy USB Ext. \$199  
SB Audigy MP3/Gamer/Oem \$135/135/95  
SB Live 5.1/128 \$49/29  
HERCULES Fortissimo II/III \$69/85  
HERCULES Theatre XP7.1 \$149  
SPEAKERS ALTEC LANSING 220/221/251 \$45/55/119  
2100/5100/621/641 \$115/199/169/219  
XA3001/3021/3051 \$69/115/205  
CAMBRIDGE MegaWorks/Inspire 6600/5200 \$399/149/95  
Inspire 4400/2600/Slim/2500 \$95/69/69  
YAMAHA MS201/M850/TSS-1 \$65/119/259  
LOGITECH Z340/Z340/Z340/Z350/Z360 \$89/89/125/149/135

#### PALM

Palm M125/M130/M515 \$149/349/479  
Palm Zire/Tungsten T \$149/679  
SONY Clio Call  
VIEWSONIC ViewPad Call

#### MONITORS

VIEWSONIC E701 17" 21H 1280 Flat \$229  
G711/8B 17" 24Ag 1280 Flat \$265  
G901 19" 21H 1600 Flat \$365  
P95F+ 19" 25Ag 2048 Flat \$395  
VE500/VE165 15" 1024 LCD \$449/449  
VE700/VE170m 17" 1280 LCD \$745/699  
VE800/V800 18" 1280 LCD \$919/979  
SONY E240/G220R/G220S 17" 24 \$389/429/479  
G410R/G420S 19" 24 1800 \$575/599  
E540/G520P 21" 24 \$895/1095  
S11571/S811 LCD Panel \$515/849/999  
X527/G2202 Digital LCD \$575/919/1099  
SAMSUNG 750S 17" 27 1280 \$179  
753DF 17" 20H 1280 Flat \$205  
763MB 17" 20H 1280 Flat \$238  
757MB 17" 20H 1920 Flat \$309  
955DF 19" 20H 1600 Flat \$3329  
957MB 19" 20H 1600 Flat \$3399  
152T 15" 29 1024 TFT LCD \$575  
172T 17" 26 1280 TFT LCD \$665  
NEC AS95F 20H 1600 Flat \$335  
FE991-SB 25Ag 1732 Flat \$395  
LCD 1550V 15.1" 1024 \$505  
LCD 1700V 17" 26 1280 \$809  
LG Electronics E700B 17" 25 1280 Flat \$210  
E900B 19" 25 1600 Flat \$345  
960LB 16" 27 1024 TFT LCD w/epk \$445  
786LS 17" 26 1280 LCD \$689  
L1800B 18.1" 28 1280 DVI/LCD \$1198  
EPSON Projectors 30C 300 lumens SVGA \$1859  
53C 1700 lumens SVGA \$2569  
SCANNERS CANON LIDE20/30D/1250U2 \$99/145/139  
CANON 500F/800F \$275/365  
EPSON 1260/2400 \$135/309  
EPSON Photo1260/1660/2450 \$179/255/539  
HP 3500C/3570C/4500C/5500C \$135/205/299/415  
HP 7400C/7450C/7480C \$645/885/1185  
MICROTEK 3800/4800/5800 \$109/129/235  
MICROTEK V80LP/120LP \$185/375

#### SCANNERS

APC SurgeArrest Per/7Per/TT \$29/35  
BackUp ES 350/500 \$89/95  
BackUp V5500L/S500L/S700 \$119/169/189  
BackUp Pro 650/1400 \$375/679  
SmartPro 420/620/700 \$309/395/479  
SmartPro 1000/1500 USB \$689/889  
TRIPLITE IsoBar 4 / 6 / 8 Ultra \$69/79/99  
Internet 300/525/Smart500U \$95/119/165

#### PRINTERS

SAMSUNG ML1210/1430 Laser 600dpi \$285/309  
ML1440/1450 Laser \$319/415  
EPSON C42UD/C82/C82 \$89/135/219  
Photo 820S/825/825 \$135/275/365  
Photo 960/1280/2200P \$495/679/975  
CANON i320/550/880/8820 \$99/165/225/275  
S330/S530D/S900/S9000 \$275/409/965/719  
MultiPASS F20/F60/F80 \$289/375/559  
HP Deskjet 3320/3420/3620/5550 \$79/99/135/165  
Deskjet 6122/6127/4500C \$275/355/409  
Laserjet 1000/1200/2200 \$345/525/985  
Laserjet MFP 3300/3320/3330 \$715/895/985  
LEXMARK Z25/Z45SE/Z55SE/Z65N \$65/119/165/259  
BROTHER HL1230/1440 \$265/439  
HL1450/1470N/1850 \$485/615/789  
Multi-Func. 4800/6800/8500 \$425/595/596  
NETWORK 3COM 3C905C-TXNM \$59  
AOPEN 10100B PCI \$20  
DLINK D30T/350B/38TX 10/100 \$55/75  
DLINK DS-540SS-8+ Switch \$55/75  
DLINK D300/400/500/600/700 \$75/99/129/159/189  
LINKSYS 4Ports RTR \$99/129  
LINKSYS 4Ports RTR \$165  
LINKSYS Vite PCUSB/PCI \$95/99/105  
LINKSYS Phoneline RTR \$195/69  
SMC 4Ports RTR (VBR/ABR) \$79/115  
SMC 4Ports RTR (ABR) \$165  
SMC 8Ports RTR (ABR) \$129  
UPS APC SurgeArrest Per/7Per/TT \$29/35  
BackUp ES 350/500 \$89/95  
BackUp V5500L/S500L/S700 \$119/169/189  
BackUp Pro 650/1400 \$375/679  
SmartPro 420/620/700 \$309/395/479  
SmartPro 1000/1500 USB \$689/889  
TRIPLITE IsoBar 4 / 6 / 8 Ultra \$69/79/99  
Internet 300/525/Smart500U \$95/119/165

#### UPS

Prices are subject to change without advanced notice. All systems are 1 year parts & 3 years labor depot warranty. All components are one year warranty unless specified. All prices are 4% Cold Cash discounted. Taxes & shipping are not included. All products are registered trademarks of their respective companies.

# Home theatre audio on the cheap

By ANDREW MOORE-CRISPIN

Getting home theatre sound into the living room has traditionally been an expensive affair that the average user would need an electronics engineering degree to figure out.

A record number of home theatre audio systems were sold this holiday season, which means some of our readers likely found one under the tree or perhaps in a larger-than-life stocking.

For those of us that weren't that lucky, all is not lost. A simple home theatre audio setup is cheaper than ever before, bringing the total price of a dedicated DVD home theatre ensemble to about the price of your average 24-inch CRT television, and you don't need a full home theatre setup complete with a massive television or an elaborate stereo system to enjoy home theatre audio.

More and more DVDs and console video games are working surround sound into their products, making the time ripe to start taking advantage of the more immersive experience that comes with being surrounded in a wash of high fidelity sound as a movie or video game is being played.

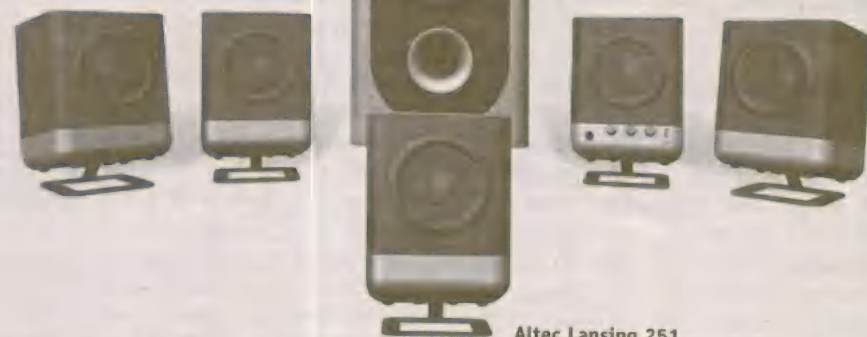
While the very top of the line home theatre would undoubtedly be nice to have, most of us don't need many of the options or the hassle that goes along with setting up and maintaining the ultimate, and setting up an inexpensive 5.1 speaker set can give your current home

entertainment area a new lease on life.

## Points to consider

Before considering a home theatre audio system, potential audiophiles need to think about how it will be set up. 5.1 systems, which are the most prevalent right now, come with one subwoofer and five speakers, called satellites. The satellites are defined as centre, front left, front right, rear left and rear right. In other words, in setting up full 5.1 speaker set so as to get the truest and most movie-theatre-like sound, the speaker setup and room acoustics would determine the placement of the furniture. Be prepared to either suffer with less than perfect acoustics or to rearrange the furniture.

Also, setting up a full 5.1 system involves a lot of wires, some of which have to be laid across to the other side of the room to carry the audio signal to



Altec Lansing 251

the rear speakers. For this reason, it is important to look for speakers that offer long enough wires to make it inconspicuously all the way across the room.

## Doing it on the cheap

The simplest option for relatively inexpensive home theatre audio is to purchase a DVD player home theatre combo. These have been heavily pushed over the holiday season, and cost approximately \$500. The biggest benefits of these all-in-one systems are that they include everything you need to set up home theatre audio right out of the box, and everything is controlled with

one remote. They also give more control over volume and equalization of the individual speakers. However, for those of us who already own a DVD player or video game console and just want to hook some better speakers up to the thing, there are a number of inexpensive 5.1 speaker sets available that are usually marketed for PC use, but that can also be hooked up to a DVD player, video game console or anything else with AV, mini plug, or, on usually more expensive models, optical or coaxial audio.

The biggest drawback of these speakers is that there is usually no way to control the volume of individual speakers, as this function, it is assumed, would be taken care of with software on the PC.

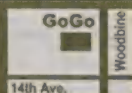
## A note on switching between sources

Hooking everything up to a main receiver that controls the volume independent of the source is the best option for home theatre applications, but another option is to get an AV switcher. These boxes usually accept four or five AV jack inputs, depending on the make and model. The speaker system would



Yamaha TSS-1

## GOGO COMPUTERS



7800 Woodbine Ave, Unit 118  
N/West corner of 14th & Woodbine  
Phone: (905) 477-0900

Mon - Fri: 10.00 am - 7.00 pm  
Sat - Sun: 11.00 am - 5.00 pm  
Fax: (905) 477-2110

<b>\$ 409</b> <b>AMD XP 1700+</b> ECS K7S5A 288 M.B. 128MB PC2100 266 DDR RAM PINE 32M AGP 30GB MAXTOR 7200 ATA 133 52X MSI CD-ROM / 1.44FDD 16BIT S.C on board 10-100 ETHERNET on board ATX CASE 300W MDTOWER KB / MOUSE / SPK <b>XP1800/2000:\$429/\$449</b>	<b>\$ 489</b> <b>AMD XP 1800+</b> ASUS A7S333 M.B. 256MB PC2100 DDR RAM PINE 32M AGP 30GB MAXTOR 7200 ATA 133 52X MSI CD-ROM / 1.44FDD 16 BIT S.C on board SMARTLINK 10-100 ETHERNET ATX CASE 300W MDTOWER KB / MOUSE / SPK <b>XP2000/2100:\$515/\$529</b>	<b>\$ 549</b> <b>AMD XP 1800+</b> MSI KT4VL 8X AGP M.B. 256MB PC2100 DDR RAM GF2 MX400 64M AGP 30GB MAXTOR 7200 ATA 133 40X16X48 CDRW / 1.44 FDD 16 BIT S.C on board 10-100 ETHERNET on board ATX CASE 300W MDTOWER KB / MOUSE / SPK <b>XP2000/2100:\$575/\$589</b>	<b>\$ 569</b> <b>AMD XP 1800+</b> ASUS A7V333-X M.B. 256 MB PC2700 333 DDR RAM GF2 MX400 64M AGP 30GB MAXTOR 7200ATA 133 40X16X48 CDRW / 1.44 FDD 16 BIT S.C on board 10-100 ETHERNET on board ATX CASE 300W MDTOWER KB / MOUSE / SPK <b>XP2000/2100:\$595/\$609</b>	<b>\$ 729</b> <b>AMD XP 2000+</b> ASUS A7V8X KT400 8XAGP MB 256 MB PC2700 333 DDR RAM GF4 MX400 64M AGP 60GB MAXTOR 7200 ATA133 40X16X48 CDRW 16X SONY DVD 1.44 FDD / 16 BIT S.C on board 10-100 ETHERNET on board 300W CASE/ KB/ MOUSE/SPKS <b>XP2100/2400:\$749/\$399</b>	<b>\$ 699</b> <b>INTEL P-4 1.8A</b> ASUS P4S533-E M.B. 256MB PC2700 333 DDR GF2 MX400 64M AGP 30GB MAXTOR 7200 ATA 133 40X16X48 CDRW / 1.44 FDD 16 BIT S.C on board 10-100 ETHERNET on board ATX CASE 300W MDTOWER KB / MOUSE / SPK <b>P4-2.0A/2.4B:\$729/\$779</b>	<b>\$769</b> <b>INTEL P-4 1.8A</b> ASUS P4B533 M.B. 256MB DDR GF2 MX400 64M AGP 30GB MAXTOR 7200 ATA 133 16X SONY DVD 40X16X48 CDRW 1.44 FDD / 16 BIT S.C on board SMARTLINK 10-100 ETHERNET 300W CASE/ KB/ MOUSE/SPKS <b>P4-2.0A/2.4:\$799/\$849</b>
<b>\$ 399</b> <b>INTEL Celeron 1.7</b> ECS P4VXASD2+533 F5B 2.0 USB 128MB PC2100 266 DDR RAM PINE 32M AGP 30GB MAXTOR ATA 133 HDD 52X MSI CDROM / 1.44 FDD 16b s.c&10-100ethernet on board ATX CASE 300W MDTOWER KB / MOUSE / SPK <b>Cel1.8/p4-1.7:\$429/\$509</b> <b>P4-1.8A/2.0A:\$539/\$569</b> <small>Prices already 4% cash discounted</small>	<b>\$ 619</b> <b>INTEL P4-1.8A</b> ECS P4VXASD2+533 F5B 2.0 USB 256MB PC2100 DDR RAM GF2 MX400 64M AGP 30GB MAXTOR 7200 ATA 133 40X16X48 CDRW / 1.44 FDD 16b s.c&10-100ethernet on board ATX CASE 300W MDTOWER KB / MOUSE / SPK <b>Cel1.7/Cel1.8:\$479/\$509</b> <b>P4-2.0A/2.4B:\$649/\$699</b> <small>Subject to change without notice</small>	<b>HARD DRIVE</b> 30GB Maxtor 7200 \$99 60GB Maxtor 7200 \$125 80GB Maxtor 7200 \$145 80GB 2M/8M W.D.7200 \$145/\$165 120G 2M/8M W.D.7200 \$229/\$269 60GB /80GB IBM 7200 \$129/\$155 80GB /80GBSeagate7200\$129/\$155 <b>MONITOR</b> 17" LG 700S \$165 17" Samsung 750S/753DF \$169/\$199 19" Samsung950/955DF \$279/\$329 19" NEC AS95F FLAT W/B \$339 15"NEC1850V/LG LCD \$489/\$449 15"Samsung151Sw/a \$435/\$455 17" SAMSUNG I71S W/B \$709/\$719	<b>VIDEO CARD</b> PINE 32M AGP \$27 G-F2 MX400 64M/TVOUT \$45/\$55 RADEON 7000 64M tvout \$49 RADEON 7500 64M DDR tvout \$59 RADEON 9000 64M DDR tvout \$95 ATI ALL-IN-W Rad 7500 64M \$188 ATI ALL-IN-W Rad8500DV64m\$269 <b>MAIN BOARD</b> ECS K7S5A \$79 ECS P4VXASD2+ \$75 ASUS A7S333 \$100 ASUS A7V333-X \$125 ASUS A7V8X \$155 ASUSP4S533-E \$145 ASUSP4B533 \$165	<b>CD-WRITE</b> Cyber Drive 40x16x48 retail \$60 LG 48x24x48 /52x24x52 re \$65/\$85 Sony 48x12x48 \$71 Liteon48X24X48/52x24x52 re\$75/\$89 PioneerA05DVD-RW RETAIL \$409 <b>SPECIAL</b> 52XMSI CD-ROM \$27 16XSony \$55 Smartlink 10-100 PCI \$8 D-LINK 4 PORT Router \$49 S.B.5.1 PCI \$45 EPSON C42 PRINTER \$65 AVS300W/AVS500W \$35/\$55 Logitech Cordless KB+MOUSE \$75 Logitech Optical Cordless k+m \$119	<b>\$ 599</b> <b>INTEL P-4 1.8A</b> ASUS P4SE AGP 256MB PC2700 333 DDR RAM PINE 32M AGP 30GB MAXTOR 7200 ATA 133 52X MSI CDROM / 1.44 FDD 16 BIT S.C on board 10-100 ETHERNET on board ATX CASE 300W MDTOWER KB / MOUSE / SPK <b>P4-2.0A/2.4B:\$629/\$689</b> <b>Warranty: 1yr parts &amp; 3yrs labor.</b>	<b>\$879</b> <b>INTEL P-4 2.0A</b> ASUS P4S8X M.B. 256MB PC2700 333 DDR GF4 MX440 64M AGP 30GB MAXTOR 7200 ATA133 40X10X40 CDRW 16X SONY DVD 1.44 FDD / 16 BIT S.C on board 10-100 ETHERNET on board 300W CASE/ KB/ MOUSE/SPKS <b>2.4B/2.53B:\$929/\$999</b> <b>Please call for more details.</b>

--Check daily on-line CPU & RAM price, special--

# ALL ITEMS IN STOCK @ BNC (WHILE QTY'S LAST)

 <b>DURON 1400</b> 128mb-30gb 56k-10/100-CD Kybd/Mouse/Spk <b>\$349</b>		 <b>INTEL P4 1.7</b> 128mb-30gb 56k-10/100-CD Kybd/Mouse/Spk <b>\$529</b>		 <b>AMD XP 1700</b> 128mb-30gb 56k-10/100-CD Kybd/Mouse/Spk <b>\$429</b>		 <b>INTEL PIII933</b> 128MB-30GB CD-10/100 <b>\$459</b> SOUND/VIDEO	
<b>DELL PII400 DESKTOP</b> 128mb-6gb 64mb-4gb CD-1.44 CD-1.44 W/17" Monitor <b>\$279</b> W/17" Monitor <b>\$259</b>		<b>Intel Celeron 433</b> 128mb-13gb-CD 56K-1.44-Kybd & Mouse Incl (New) <b>\$219</b>		<b>Intel PII350 Tower</b> 64mb-10gb-CD-1.44 10/100-SOUND/VIDEO w/17" Monitor (90 Day Warr) <b>\$269</b>		<b>Intel PII667 Destop</b> 128mb-20gb- incl. CD-10/100 <b>\$349</b> Kybd/Mouse	
 <b>QuickCam Express USB</b> <b>\$35-</b>	 <b>Classic 107 Ps2 Keyboard</b> <b>\$9.99</b>	 <b>Freedom USB Cordless Optical</b> <b>\$99-</b>	 <b>Navigator Internet USB</b> <b>\$29-</b>	 <b>Optical Scroll USB</b> <b>\$16-</b>	 <b>Optical Cordless USB</b> <b>\$39-</b>	 <b>Cordless USB Mouse</b> <b>\$25-</b>	<b>Ps2 \$3-</b> <b>Mouse (new)</b> <b>Ps2 \$6-</b> <b>Mouse scroll</b>
 <b>Palm IIIxe</b> 8mb w/cradle incl AAA Batt <b>\$89-</b> NEW 90day	 <b>Thinkpad IBM 360</b> <b>\$849</b> PIII450-128mb-12gb CD-56k-10/100-14.1"	 <b>\$89-</b> New, Retail 90dayWarr IBM 8.1gb PCMCIA External Hard Drive	 <b>10/100 PCMCIA</b> 1. IBM 10/100 <b>\$19-</b> 2. Xircom 10/100 <b>\$20-</b> 3. 3Com 10/100 <b>\$25-</b>	 <b>56K PCMCIA</b> 1. Compaq 56k <b>\$19-</b> 2. 3Com 56k <b>\$25-</b>	 <b>\$12-</b> USB or Ps2 Optical Scroll	 <b>6 IN 1 \$39-</b> Memory Card Reader NEW-Retail	
 <b>\$99-</b> Make your Own Cables 1000ft Cat5e w/100 conn incl/Crimper & Tester	 <b>\$16-</b> 4 Port USB Hub NEW-Retail	 <b>\$19-</b> 4 Port USB Hub NEW-Retail	 <b>10/100 PCI</b> 1. Intel 10/100 <b>\$19-</b> 2. 3Com 10/100 <b>\$29-</b>	 <b>\$19-</b> LINKSYS 10/100 USB External	 <b>\$39-</b> 6 IN 1 Memory Card Reader	 <b>\$50-</b> 25 pack Princo 4.7gb DVD-R Media	
 <b>\$299</b> Princeton 14" LCD Flatpanel incl 16mb video	 <b>\$219</b> Viewsonic 17" Pure Flat .21dp Monitor	 <b>\$175</b> LG 17" .27dp Monitor	 <b>\$99-17"</b> OFF Lease 90Day Warr Grade A	 <b>\$49</b> 48bit	 <b>\$79</b> Scanner & Transparency Adapter	 <b>\$20-</b> 10 pack 24X 80min w/label Kit	
 <b>\$12-</b> 1. 6X CDROM 2. 8x CDROM <b>\$15-</b> PULLS-90 Day	 <b>\$19-</b> 1. 32X CDROM 2. 40x CDROM <b>\$25-</b> PULLS-90 Day	 <b>\$75</b> Brand New	 <b>\$55</b> 16X DVD Brand New	 <b>\$29</b> SCSi 24 Bit Colour Scanner Brand New-Retail	 <b>\$69</b> Parallel 32bit w/Transparency	 <b>\$7-</b> 10 pack 48X 80min JewelCase	
 <b>\$45-</b> 1. TNT II M64 AGP 2. Asus AGP TV/Out <b>\$49-</b>	 <b>\$25</b> 16mb AGP Video	 <b>\$45</b> 32mb PCI Video	 <b>\$10-</b> 1. 4Channel PCI 2. 6Channel PCI <b>\$15-</b> 3. SB PCI 128 <b>\$19-</b>	 <b>\$99-</b> Maxtor 30gb 5400rpm...	 <b>\$25-</b> Case & P/S 2x5.25" 1x3.5"	 <b>\$29</b> 56k External USB Modem Brand New (Retail)	
 <b>\$10</b> Harman/Kardon HK 206 2pc Brand New	 <b>\$19</b> 56k PCI v.92 Modem MOTOROLA	 <b>\$149-</b> IBM 30gb (NEW) 7200rpm...	 <b>\$0.89</b> 3ft... <b>\$0.99</b> 4ft... <b>\$1.29</b> 6ft... <b>\$1.39</b> 7ft... <b>\$1.69</b> 10ft... <b>\$1.79</b> 12ft... <b>\$1.89</b> 14ft... <b>\$1.99</b> 15ft... <b>\$2.49</b> 20ft... <b>\$2.99</b> 25ft...	 <b>\$0.89</b> 3ft... <b>\$0.99</b> 4ft... <b>\$1.29</b> 6ft... <b>\$1.39</b> 7ft... <b>\$1.69</b> 10ft... <b>\$1.79</b> 12ft... <b>\$1.89</b> 14ft... <b>\$1.99</b> 15ft... <b>\$2.49</b> 20ft... <b>\$2.99</b> 25ft...	 <b>\$0.89</b> 3ft... <b>\$0.99</b> 4ft... <b>\$1.29</b> 6ft... <b>\$1.39</b> 7ft... <b>\$1.69</b> 10ft... <b>\$1.79</b> 12ft... <b>\$1.89</b> 14ft... <b>\$1.99</b> 15ft... <b>\$2.49</b> 20ft... <b>\$2.99</b> 25ft...	 <b>\$0.89</b> 3ft... <b>\$0.99</b> 4ft... <b>\$1.29</b> 6ft... <b>\$1.39</b> 7ft... <b>\$1.69</b> 10ft... <b>\$1.79</b> 12ft... <b>\$1.89</b> 14ft... <b>\$1.99</b> 15ft... <b>\$2.49</b> 20ft... <b>\$2.99</b> 25ft...	

## WHOLESALE CUSTOMERS WELCOMED

Visit our showroom for in store Specials!

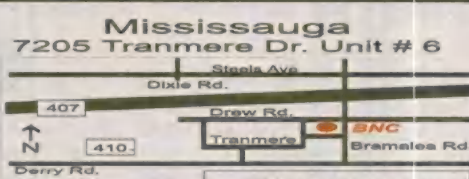
**BNC Systems Inc.**

**Www.bnccom.com**

Mon-Fri 9:30am-6:30pm Saturday 11:00am-5:00pm

Tel. (905)678-1242 Fax (905)678-1252

\*Products names mentioned herein maybe trade names and/or registered trademarks of their respective companies. Images may vary.



## Home theatre audio on the cheap

continued from page 22

then be hooked up as the primary audio out, with the video signal running directly to the TV or through an RF modulator, depending on whether your television is equipped with AV ins or coaxial in. Then it's just a matter of switching between the different components in your entertainment centre using the buttons on the front of the unit.

### Altec Lansing 251

\$149.99  
 Total System Power: 45 RMS  
 Frequency Response: 35Hz - 18kHz  
 Signal to Noise Ratio > 70 dB  
 Satellite Speakers: Driver power: 5 Watts RMS (per channel)  
 Subwoofer: Driver power: 20 Watts RMS

This is the best and worst of the systems tested: The best because it gives users a number of options and work arounds, which makes it the most versatile of the speakers we had in the office, the worst because the wires are too short and too fat to make for an inconspicuous and effective home installation.

Rather than put inputs on the back of the subwoofer, which is standard practice in PC 5.1 sets, the 251 gives users a long cord with three mini jack inputs on the end, as well as the necessary adapters for using AV cables, which is the most common output on video game consoles and DVD players alike.

The sound is rich and full, giving every nuance of the 5.1 sound being piped through on a DVD movie (tested on all systems using the extended edition of *The Lord of the Rings: The Fellowship of the Ring*) or video game (tested on all systems using *Splinter Cell* for the Xbox).

The 251 system suffers from the same drawbacks as most speakers in this class; namely, there is no way to adjust the sound of individual speakers or channels without using some sort of receiver.

The left front speaker controls the power, centre balance surround and volume with small knobs on the front of the unit.

For \$149.99, these speakers count in as some of the least expensive ones, making their drawbacks more forgivable.

### Yamaha TSS-1

\$249.99  
 Total System Power: 48 Watts RMS  
 System Frequency Response: 40Hz - 20kHz  
 Signal to Noise Ratio: >70dB

# W W W . LOGIC COMPUTER HOUSE . C O M

Computer Fest Feb.07-09 We'll see you there at Booth #427 !!!

## February Special

Price Only Effective Between Feb 01 -15 '2003

ALL ITEMS ARE CASH PRICES & ALREADY 3% CASH DISCOUNTED :-)

### D-Link

**DI604**  
4-Port Router

**\$69**

**DI704P**  
4-Port Router  
w/PrintServer

**\$89**

### CREATIVE World's thinnest Digital Camera



1.3megapixel  
8mb memory  
1.3 ounces

**\$131**

### IBM A20M THINK PAD

Cel500 128M, 6.4gHD, CDR  
12.1TFT, Modem, Lan, Sound  
USB, TV OUT,  
Win98, Fac. Ref.

**\$599**

### CREATIVE

**Audigy2**

**\$179**

**Audigy2**

**Platinum**



**\$272**

### CREATIVE

**I-Trigue2.1 3300**

**\$120**



**Inspire6.1 6600**

**\$156**

### ASUS

**V9280**

GeForce4 Ti4200  
8x AGP

**64MB \$213**



**128MB \$259**

### acer

**TM223X**

**TravelMate**

Celeron 1.13GHz  
14.1" XGA TFT LCD  
128MB PC-133 SDRAM  
20GB ATA-100 HD  
24X CD Rom  
10/100 Ethernet



**\$1499**

### MSI

**MS-8348**

48x16x48

IDE CD-RW

2MB Buffer

Exaclink Buffer Under-run



**\$70**

### MSI

**MS-6570G**

Socket A

nForce 2 Chipset

8x AGP FSB333 USB2.0

Audio/Video/Lan Onboard



**K7N2-L**

**\$190**

### TOSHIBA

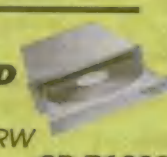
**CD-RW/DVD**

**COMBO**

16x10x40 CD-RW

12x DVD

2048K Buffer



**CD-R1202**

**\$85**

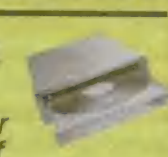
### PLEXTOR

48x24x48

4MB Buffer

Burn-Proof

IDE CD-RW Kit



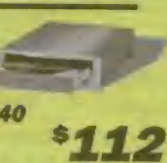
**\$159**

### LG Electronics

**CD-RW: 32x10x40**

**DVD: 16X**

GCC-4320B



**\$112**

**CD-RW: 52x24x52**

GCE-8520B

**\$89**

### YAMAHA

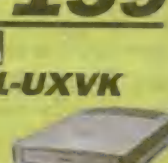
**CRW-F1-UXVK**

44x24x44

Ext. USB2.0

CD-RW Kit

w/Laser Labeling



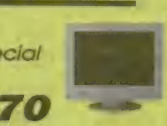
**\$267**

### LG Electronics

**Monitors Special**

**17" Studioworks**

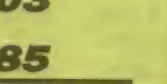
**700S**



**\$170**

**17" EZ-Flat**

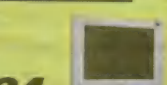
**E700B**



**\$203**

**19" Flatron**

**900B**



**\$285**

### IBM Travelstar E

**8GB**

**External HardDrive**

4900rpm 12.0ms

w/PCMCIA Card

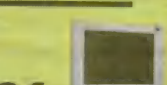


**\$99**

### LG Electronics

**15" Flatron LCD**

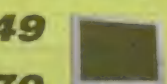
**1511S**



**\$434**

**15" Flatron LCD**

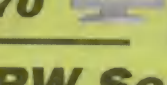
**566LM**



**\$449**

**17" Flatron LCD**

**786LS**



**\$670**

### Pioneer

**DVR-A05U**

**4X**

**DVD-R/RW**

**Kit**



**\$429**

## Pentium4 Starter Series

- ASUS P4S533VM SIS651 Socket478 M/B
- 256MB DDR RAM 266MHz
- ATX 350W Mid Tower Case
- 1.44MB Panasonic Floppy
- 30GB 7200rpm Hard Drive
- On-Board Video
- On-Board Audio & Lan
- 17" LG 700S 0.27dpi Monitor
- Hitachi 32x IDE CDRom (New Pull)
- 56K V.90 PCI Fax Modem
- PS/2 Internet Keyboard
- Logitech PS/2 Wheel Mouse
- Altec Lansing ACS-21W Spks.

Celeron 1.7 GHz

**\$739**

Pentium4 1.8A GHz

**\$889**

Pentium4 2.4A GHz

**\$979**



## Pentium4 CD-RW Series

- MSI-6566E Intel 845E Socket478 M/B
- 256MB DDR RAM 266MHz
- ATX 350W Mid Tower w/Handle
- 1.44MB Panasonic Floppy
- 60GB 7200rpm Hard Drive
- ECS AG315P SIS315 64MB AGP
- On-Board Audio
- 15" LG 566LM LCD Monitor
- w/Built-in Speakers
- 48x12x48 IDE CD-RW
- 56K V.90 PCI Fax Modem
- HP Multimedia Keyboard
- HP Wheel Mouse

Celeron 1.7 GHz

**\$1119**

Pentium4 1.8A GHz

**\$1269**

Pentium4 2.4B GHz

**\$1359**



\*\* Free 10pcs CD-R Disc while quantity last\*\*

## Pentium4 Platinum Series

- MSI 648Max SIS648 Socket478 M/B
- 256MB DDR RAM 333MHz
- 1.44MB Panasonic Floppy
- 80GB 7200rpm Hard Drive
- MSI 8890 MX440 64MB 8X AGP
- On-Board Audio & Lan
- 17" LG 786LS LCD Monitor
- LG 48x24x48 IDE CD-RW
- Sonlab CS-SW3 Spks & Subwoofer
- Black/Silver Mid Case w/350W PS
- 56K V.90 PCI Fax Modem
- PS/2 Internet Keyboard
- Logitech PS/2 Optical Mouse

Celeron 1.7 GHz

**\$1569**

Pentium4 2.4B GHz

**\$1799**

Pentium4 2.53B GHz

**\$1859**



\*\* Free 8MB USB Flash Drive while quantity last\*\*

## AMD Starter Series

- ASUS A7N266-VM SocketA M/B
- 256MB DDR RAM 266MHz
- ATX 350W Mid Tower Case
- 1.44MB Panasonic Floppy
- 30GB 7200rpm Hard Drive
- On-Board nVIDIA GF2 Video
- On-Board Audio & Lan
- 17" LG 700S 0.27dpi Monitor
- Hitachi 32x IDE CDR (New Pull)
- 56K V.90 PCI Fax Modem
- Compaq PS/2 Internet KB
- Logitech PS/2 Wheel Mouse
- Altec Lansing ACS-21W Spks.

AthlonXP 2000+

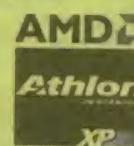
**\$779**

AthlonXP 2200+

**\$909**

AthlonXP 2600+

**\$1129**



ALL Systems are Backed by 1 or 3 Yrs Parts & Labor Depot Warranty We Service all IBM Compatible Systems (UPGRADE & REPAIR)

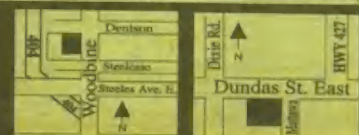
\*\* Store Hours: \*\*

Mon-Fri. 10:00a.m - 9:00p.m.  
Sat. 10:00a.m - 6:00p.m.  
Sun. 12:00p.m - 5:00p.m.

- Government &  
Corporate PO's Accepted  
- Dealers are Welcome

WAREHOUSE OUTLET  
7310 Woodbine Avenue  
(Woodbine & Danison)  
TEL: (905) 415-0909  
FAX: (905) 415-0911

MISSISSAUGA LOCATION  
1590 Dundas St. E.  
(Hwy 427 & Dundas)  
TEL: (905) 276-9995  
FAX: (905) 276-5108



## Home theatre audio on the cheap

Satellite Speakers: Driver power: 6 Watts RMS (per channel)

Subwoofer: Driver power: 18 Watts RMS

Of the four systems tested, the TSS-1 is the only one with a separate receiver as part of the package.

None of the systems comes with a remote, as they are mostly intended for use with a PC where everything would be on the desk anyway negating the need for a remote.

The TSS-1 is also the only system that takes advantage of optical in, a high fidelity audio source found on higher level DVD players and standard on the PS2.

The biggest advantage the TSS-1 holds over its competitors is the aforementioned receiver with volume, balance, surround and subwoofer (bass) controls on the front and the fact that its cables are thin with extra length given to the rear speakers, making them about seven metres in length; enough to be able to hide the cables under a rug and carry the signal to the rear speakers behind the couch without tripping anyone that tries to walk through.

The TSS-1 was also designed with home theatre applications in mind, and gives users plenty of choices for audio

signal in. The system gives a full rich sound, which as with all of the systems tested, won't impress the true home theatre aficionados, but is more than enough to enhance a movie or video game.

### Logitech Z-540

\$99.99 (estimated street price)

Total System Power: 40 Watts RMS

System Frequency Response: 35Hz - 20kHz

Signal to Noise Ratio: >75dB

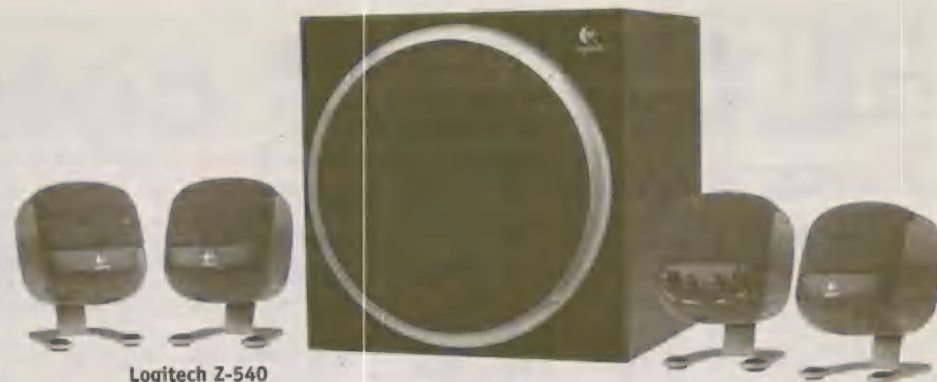
Satellite Speakers: Driver power: 5 Watts RMS (per channel)

Subwoofer: Driver power: 20 Watts RMS

This speaker set is actually a 4.1 system, lacking a centre speaker. Instead, 5.1 signals are converted with the centre signal coming through on both the left and right front speakers.

The Z-540 is also much more for PC use, which means to set it up for home theatre use would require a lot of jury rigging.

Rather than having female in plugs, as are usually found on home theatre speakers, the Z-540 has two male 1/8-inch jacks, one to carry the front signal and one for the rear signal. As a desktop system, the Z-540 gives a balanced sound with good surround. The speakers are also the best looking and most balanced of the lot, as the four speakers



Logitech Z-540

aren't satellite speakers and can reproduce a wide range of sounds, both bass and treble.

However, the relatively short and fat speaker cables, along with the fact that many adapters and converters would have to be used makes it unsuited to home theatre audio use.

### Hercules XPS 510

\$139 (from US\$89.99)

Total System Power: 60 Watts RMS

System Frequency Response: 40Hz - 20kHz

Signal to Noise Ratio: >65dB

Satellite Speakers: Driver power: 8 Watts RMS (per channel)

Subwoofer: Driver power: 20 Watts RMS

The Hercules system is the most bare-bones of the four units we checked out,

though you wouldn't know it to listen through your PC. The sturdy subwoofer has a power button, volume and bass knobs on the front, and that's as far as fine-tuning goes without the included software.

The five satellite speakers are made of plastic but do a good job of reproducing higher end sounds, while the subwoofer takes good care of the bass.

While the Hercules setup has female sound inputs, the system is designed with only PC use in mind. The three ins run to a 5.1 sound card and would require a lot of work and many adapters to convert to home theatre use; too bad really, given that this system's rear satellite speakers have the thinnest and longest wiring of any of the systems tested. ♦

## Computer Square Inc.

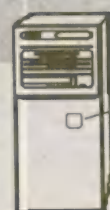
Wholesale & Retail

Your Computer Parts Specialist



Computer Dealers

Call for wholesale price list!



We also make this logo  
Call for detail



[www.computersquare.ca](http://www.computersquare.ca)

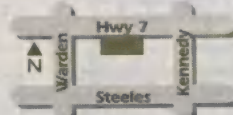
✓ All kinds of SCSI cable & adaptor  
SCSI I, II, III, Ultra SCSI,  
Ultra 2 SCSI LVD available

Enquiries

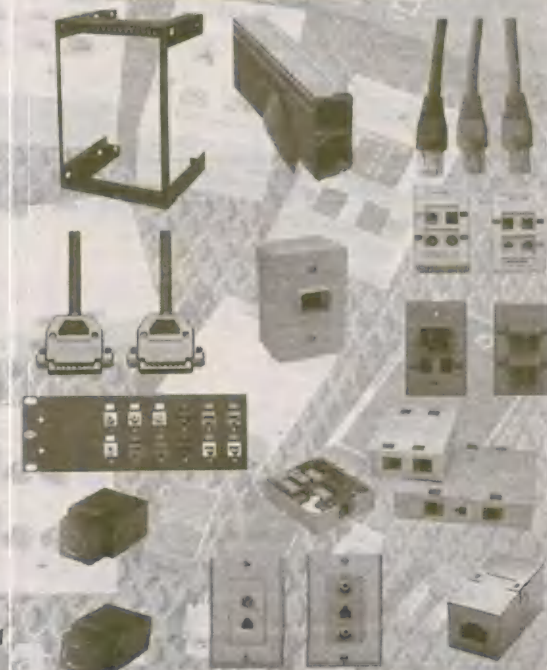
(905) 415-0229

Fax: (905) 415-0164 Toll Free 1-800-488-8615

E-mail: [csquare@ldirect.com](mailto:csquare@ldirect.com)



Mon-Fri : 10-7 Sat : 10-6 Sunday Close  
4361 Hwy 7 East, Unit 3 & 4, Markham, Ontario, Canada L3R 1M1  
(Between Warden & Kennedy)



## PREMIER CHOICE BRONZE

- ✓ ECS P455MG/650+ for Socket 478 CPUs or ECS K7SEM-266 for Socket A CPUs
- ✓ Panasonic 3.5" - 1.44MB HD Floppy Disk Drive
- ✓ 40GB Fast ATA-100 Hard Disk Drive @ 5400RPM
- ✓ 256Mb SDRAM, PC133MHz, 168Pin RAM Memory
- ✓ Mid-Tower 6 Bay ATX Case w/ 300W Power Supply
- ✓ On-Board EIDE Controller & Ultra/100 Support
- ✓ 2- USB Ports, 1- 16550 Serial Ports, 1 PS/2 Mouse Port & 1- Bi-Directional Parallel Port
- ✓ On-Board AGP 3D Video w/ 64Mb Buffer
- ✓ On-Board PCI Stereo Sound w/ Surround Sound
- ✓ 56k Fax/Modem w/ VoiceMail, v.90, AMR
- ✓ On-Board 10/100 PCI Full Duplex Network Adapter
- ✓ Fifty-Two Speed (52X) Max EIDE CD-ROM Drive
- ✓ Samsung 750S Digital .24hd SVGA Color Monitor
- ✓ Mitsumi 104 Enhanced Soft-Touch Win 95 Keyboard
- ✓ Labtec Spin 50 Amplified Powered Stereo Speakers
- ✓ Microsoft Compatible Serial Mouse w/ Mouse Pad
- ✓ MS Windows XP Home OEM w/ CD and Manual
- ✓ 5 Years Labour & 1 Year Parts Warranty

AMD Duron 1.3-GHz.....	\$799.99	or \$30/mth
AMD Duron 1.3-GHz.....	\$829.99	or \$31/mth
AMD Athlon XP-1800+.....	\$844.99	or \$31/mth
AMD Athlon XP-2000+.....	\$869.99	or \$32/mth
AMD Athlon XP-2100+.....	\$884.99	or \$33/mth
AMD Athlon XP-2200+.....	\$969.99	or \$36/mth
AMD Athlon XP-2400+.....	\$1039.99	or \$38/mth
Intel Celeron-1.7GHz.....	\$824.99	or \$30/mth
Intel Celeron-1.8GHz.....	\$849.99	or \$31/mth
Intel Celeron-2.0GHz.....	\$869.99	or \$32/mth
Intel Celeron-2.1GHz.....	\$884.99	or \$33/mth
Intel Celeron-2.2GHz.....	\$909.99	or \$34/mth
Intel Pentium 4-1.7GHz.....	\$929.99	or \$34/mth
Intel Pentium 4-1.8GHz.....	\$954.99	or \$35/mth
Intel Pentium 4-2.0A-512k.....	\$989.99	or \$36/mth
Intel Pentium 4-2.4B-512k.....	\$1034.99	or \$38/mth
Intel Pentium 4-2.5B-512k.....	\$1104.99	or \$40/mth

## PREMIER CHOICE SILVER

- ✓ Abit KD7 Motherboard for AMD Socket A or Abit BE7 Motherboard for Intel Pentium 4 CPUs
- ✓ Thermaltake Volcano 6CU+ Heat Sink/Fan for AMD CPU
- ✓ Panasonic 3.5" - 1.44MB HD Floppy Disk Drive
- ✓ 60Gb Fast ATA-100 Hard Disk Drive @ 7200RPM
- ✓ 256Mb DDR RAM, PC2700, 184Pin RAM Memory
- ✓ Premium 6 Bay Mid-Tower ATX Case w/ 300W P.S.
- ✓ On-Board EIDE Controller & Ultra/100 Support
- ✓ 4- USB Ports, 2- 16550 Serial Ports, 1 PS/2 Mouse Port & 1- Bi-Directional Parallel Port
- ✓ ATI Radeon 9100 AGP Video w/ 64Mb & TV-Out
- ✓ 16X DVD-ROM Drive w/ 40X CDROM support
- ✓ On-board PCI Stereo Sound w/ Surround Sound
- ✓ Altec Lansing AVS500 w/ 4 Speakers & Subwoofer
- ✓ Rockwell 56K Int. Voice/Fax/Modem v.90 (PCI)
- ✓ On-Board 10/100 PCI Full Duplex Network Adapter
- ✓ Samsung 753DF 17" Digital .20hd CRT Monitor, Flat
- ✓ Mitsumi 104 Enhanced Soft-Touch Win 95 Keyboard
- ✓ Logitech Optical Mouse w/ Wheel w/ Mouse Pad
- ✓ MS Windows XP Home OEM w/ CD and Manual
- ✓ 5 Years Labour & 1 Year Parts Warranty

AMD Duron 1.3-GHz.....	\$1224.99	or \$45/mth
AMD Duron 1.3-GHz.....	\$1254.99	or \$46/mth
AMD Athlon XP-1700+.....	\$1269.99	or \$47/mth
AMD Athlon XP-1800+.....	\$1294.99	or \$48/mth
AMD Athlon XP-2100+.....	\$1309.99	or \$48/mth
AMD Athlon XP-2200+.....	\$1394.99	or \$51/mth
AMD Athlon XP-2400+.....	\$1464.99	or \$54/mth
Intel Celeron-1.7GHz.....	\$1244.99	or \$46/mth
Intel Celeron-2.0GHz.....	\$1289.99	or \$47/mth
Intel Celeron-2.2GHz.....	\$1329.99	or \$49/mth
Intel Pentium 4-1.7GHz.....	\$1349.99	or \$50/mth
Intel Pentium 4-1.8GHz.....	\$1374.99	or \$50/mth
Intel Pentium 4-2.0A-512k.....	\$1409.99	or \$52/mth
Intel Pentium 4-2.4B-512k.....	\$1454.99	or \$53/mth
Intel Pentium 4-2.5B-512k.....	\$1524.99	or \$51/mth
Intel Pentium 4-2.6B-512k.....	\$1604.99	or \$54/mth
Intel Pentium 4-2.8B-512k.....	\$1764.99	or \$59/mth

## PREMIER CHOICE GOLD

- ✓ Asus P458X Motherboard for Intel Pentium 4 CPUs or Asus A7V8X Motherboard for AMD CPUs
- ✓ Thermaltake Volcano 7 Heat Sink/Fan for AMD CPUs
- ✓ Panasonic 3.5" - 1.44MB HD Floppy Disk Drive
- ✓ 80Gb Fast ATA-100 Hard Disk Drive @ 7200RPM
- ✓ 512Mb DDR RAM, PC2700, 184 Pin RAM Memory
- ✓ Enlight Mid-Tower ATX Case w/ 7 Bays & 300W P.S.
- ✓ On-Board EIDE Controller & Ultra/100 Support
- ✓ 4- USB Ports, 2- 16550 Serial Ports, 1 PS/2 Mouse Port & 1- Bi-Directional Parallel Port
- ✓ Asus v8180TD GeForce4-MX440-8X w/ 64Mb & TV-Out
- ✓ Sony 48x12x48x CD-RW Drive w/ Burn Software
- ✓ SoundBlaster Live 5.1 PCI Stereo Soundcard
- ✓ Creative Inspire 4.1-4400 Speaker System w/ Subwoofer
- ✓ US Robotics 56K Internal Fax/Modem v.90 (PCI)
- ✓ D-Link 10/100Mbit Full-Duplex Network Adapter (PCI)
- ✓ Samsung 950B 19" Digital .22hd CRT Monitor
- ✓ Keytronic 104 Enhanced Soft-Touch Win 95 Keyboard
- ✓ Microsoft Wheel Mouse Optical Mouse w/ Mouse Pad
- ✓ MS Windows XP Home OEM w/ CD and Manual
- ✓ 5 Years Labour & 1 Year Parts Warranty

AMD Duron 1.3-GHz.....	\$1599.99	or \$53/mth
AMD Athlon XP-1700+.....	\$1629.99	or \$54/mth
AMD Athlon XP-1800+.....	\$1644.99	or \$55/mth
AMD Athlon XP-2000+.....	\$1669.99	or \$56/mth
AMD Athlon XP-2100+.....	\$1684.99	or \$56/mth
AMD Athlon XP-2200+.....	\$1769.99	or \$59/mth
AMD Athlon XP-2400+.....	\$1839.99	or \$61/mth
AMD Athlon XP-2600+.....	\$1994.99	or \$67/mth
Intel Celeron-1.7GHz.....	\$1614.99	or \$54/mth
Intel Celeron-2.0GHz.....	\$1659.99	or \$55/mth
Intel Celeron-2.2GHz.....	\$1699.99	or \$57/mth
Intel Pentium 4-1.8GHz.....	\$1744.99	or \$58/mth
Intel Pentium 4-2.0A-512k.....	\$1779.99	or \$59/mth
Intel Pentium 4-2.4B-512k.....	\$1824.99	or \$61/mth
Intel Pentium 4-2.5B-512k.....	\$1894.99	or \$63/mth
Intel Pentium 4-2.6B-512k.....	\$1974.99	or \$66/mth
Intel Pentium 4-2.8B-512k.....	\$2134.99	or \$71/mth

## PREMIER CHOICE PLATINUM

- ✓ Abit IT7-Max2-2.0 Motherboard w/ 1845ep Chipset for P4 or Abit AT7-Max2 Motherboard for AMD CPUs
- ✓ Thermaltake Volcano 7+ Heat Sink/Fan
- ✓ Panasonic 3.5" - 1.44MB HD Floppy Disk Drive
- ✓ 120Gb ATA/100 Hard Disk Drive @ 7200RPM w/ 8Mb
- ✓ 512Mb DDR RAM, PC3200, 184 Pin RAM Memory
- ✓ Enermax Mid-Tower ATX Case w/ 7 Bays
- ✓ Pentium 4 - 300W ATX Power Supply w/ 2 Fans
- ✓ 4- Ultra/133 Channels & 2- Serial ATA Channels
- ✓ 8- USB Ports and 4- 1394 Firewire Ports
- ✓ ATI All-in-Wonder Radeon 9700Pro w/ 128Mb DDR
- ✓ Plexor 48x / 24x / 48x CR-RW Drive w/ Software
- ✓ Realtek ALC650 Audio w/ 6 Channel Support
- ✓ Creative Inspire 6.1 6600 w/ 6 Speakers & Subwoofer
- ✓ US Robotics 56K Internal Fax/Modem v.90 (Hardware)
- ✓ Realtek 8100B Interface for 10/100Mb Network Access
- ✓ Samsung 1515 15" LCD Monitor, .297mm
- ✓ Microsoft Internet Keyboard Port, USB w/ Internet Keys
- ✓ Microsoft IntelliMouse, USB w/ Mouse Pad
- ✓ Thermaltake Smart 80mm Second Case fan
- ✓ Arctic Silver III Thermal Heat Compound
- ✓ MS Windows XP Professional OEM w/ CD and Manual
- ✓ 5 Years Labour & 1 Year Parts Warranty

AMD Duron 1.3-GHz.....	\$2814.99	or \$94/mth
AMD Athlon XP-1800+.....	\$2859.99	or \$95/mth
AMD Athlon XP-2000+.....	\$2884.99	or \$96/mth
AMD Athlon XP-2100+.....	\$2899.99	or \$96/mth
AMD Athlon XP-2200+.....	\$2984.99	or \$99/mth
AMD Athlon XP-2400+.....	\$3054.99	or \$100/mth
AMD Athlon XP-2600+.....	\$3209.99	or \$105/mth
AMD Athlon XP-2700+.....	\$3284.99	or \$107/mth
Intel Celeron-2.2GHz.....	\$2949.99	or \$98/mth
Intel Pentium 4-2.0A-512k.....	\$3229.99	or \$99/mth
Intel Pentium 4-2.4B-512k.....	\$3074.99	or \$101/mth
Intel Pentium 4-2.5B-512k.....	\$3144.99	or \$103/mth
Intel Pentium 4-2.6B-512k.....	\$3224.99	or \$106/mth
Intel Pentium 4-2.8B-512k.....	\$3384.99	or \$111/mth
Intel Pentium 4-3.0B-512k.....	\$3779.99	or \$124/mth

## Premier CPUs & Memory

AMD Duron 950MHz @ 100/200MHz (Socket A).....	see web
AMD Duron 1.3-GHz @ 100/200MHz (Socket A).....	see web
AMD Athlon XP 1700+ @ 266MHz (Socket A).....	see web
AMD Athlon XP 1800+ @ 266MHz (Socket A).....	see web
AMD Athlon XP 2000+ @ 266MHz (Socket A).....	see web
AMD Athlon XP 2100+ @ 266MHz (Socket A).....	see web
AMD Athlon XP 2200+ @ 266MHz (Socket A).....	see web
AMD Athlon XP 2400+ @ 266MHz (Socket A).....	see web
AMD Athlon XP 2600+ @ 333MHz (Socket A).....	see web
AMD Athlon XP 2700+ @ 333MHz (Socket A).....	see web
Intel Celeron 1.7-GHz (Socket 478) @ 400MHz.....	see web
Intel Celeron 1.8-GHz (Socket 478) @ 400MHz.....	see web
Intel Celeron 2.0-GHz (Socket 478) @ 400MHz.....	see web
Intel Celeron 2.2-GHz (Socket 478) @ 400MHz.....	see web
Intel Pentium 4-1.7-GHz (Socket 478).....	see web
Intel Pentium 4-1.8-GHz (Socket 478).....	see web
Intel Pentium 4-2.0-GHz @ 512k (Socket 478).....	see web
Intel Pentium 4-2.4-GHz @ 512k (Socket 478).....	see web
Intel Pentium 4-2.6-GHz @ 512k (Socket 478).....	see web
Intel Pentium 4-2.8-GHz @ 512k (Socket 478).....	see web
Intel Pentium 4-3.0-GHz @ 512k (Socket 478).....	see web

Full List of CPUs Available Online

128 MB. SDRAM PC133MHz.....	see web
256 MB. SDRAM PC133MHz.....	see web
512 MB. SDRAM PC133MHz.....	see web
128 MB. SDRAM PC150MHz.....	see web
256 MB. SDRAM PC150MHz.....	see web
512 MB. SDRAM PC150MHz.....	see web
128 MB. SDRAM PC1600MHz.....	see web
256 MB. SDRAM PC1600MHz.....	see web
512 MB. SDRAM PC1600MHz.....	see web
128 MB. SDRAM PC2100MHz.....	see web
256 MB. SDRAM PC2100MHz.....	see web
512 MB. SDRAM PC2100MHz.....	see web
128 MB. SDRAM PC2700MHz.....	see web
256 MB. SDRAM PC2700MHz.....	see web
512 MB. SDRAM PC2700MHz.....	see web
128 MB. SDRAM PC3200MHz.....	see web
256 MB. SDRAM PC3200MHz.....	see web
512 MB. SDRAM PC3200MHz.....	see web
OCZ 256 MB. SDRAM PC2700MHz.....	see web
OCZ 512 MB. SDRAM PC2700MHz.....	see web
OCZ 256 MB. SDRAM PC3200MHz.....	see web
OCZ 512 MB. SDRAM PC3200MHz.....	see web
OCZ 256 MB. SDRAM PC3500MHz.....	see web
OCZ 512 MB. SDRAM PC3500MHz.....	see web
OCZ 256 MB. SDRAM PC3500MHz.....	see web
OCZ 512 MB. SDRAM PC3500MHz.....	see web
128 MB. Rambus, 184Pin, PC800 Non-ECC.....	see web
256 MB. Rambus, 184Pin, PC800 Non-ECC.....	see web
512 MB. Rambus, 184Pin, PC800 Non-ECC.....	see web
256 MB. Rambus, 184Pin, PC1066 Non-ECC.....	see web
512 MB. Rambus, 184Pin, PC1066 Non-ECC.....	see web

## Premier Hard Drives & Storage

40GB ATA/100 5400RPM EIDE Hard Drive.....	\$114.99
80GB ATA/100 5400RPM EIDE Hard Drive.....	\$129.99
160GB ATA/100 7200RPM EIDE Hard Drive.....	\$124.99
40GB ATA/100 7200RPM EIDE Hard Drive.....	\$139.99
80GB ATA/100 7200RPM EIDE Hard Drive.....	\$154.99
160GB ATA/100 7200RPM EIDE Hard Drive.....	\$229.99
WD 80GB ATA/100 7200RPM Hard Drive w/ 8Mb.....	\$174.99
WD 120GB ATA/100 7200RPM Hard Drive w/ 8Mb.....	\$264.99
WD 160GB ATA/100 7200RPM Hard Drive w/ 8Mb.....	\$369.99
WD 180GB ATA/100 7200RPM Hard Drive w/ 8Mb.....	\$424.99
WD 200GB ATA/100 7200RPM Hard Drive w/ 8Mb.....	\$434.99
WD 240GB ATA/100 7200RPM Hard Drive w/ 8Mb.....	\$474.99
Maxtor 180GB ATA/133 7200RPM Hard Drive w/ 8Mb.....	\$384.99
Maxtor 200GB ATA/133 7200RPM Hard Drive w/ 8Mb.....	\$479.99

Full List of Hard Drive Brands Available Online - 1 Yr Warranty

Panasonic 1.44MB Floppy Disk Drive (Black or Beige)..... \$14.99  
Yamaha Zip Drive 250MB EIDE / 750MB USB..... \$109.99/\$249.99  
Promise Ultra133 SCSI Controller Card..... \$59.99

## Hot New Products ... Lower Pricing ... Available Canada Wide

Visit us online at [www.pccanada.com](http://www.pccanada.com) for up-to-date pricing, new products, secure ordering & fast shipping Canada wide.

## Premier Motherboards

### Motherboards for AMD CPUs

Abit AT7-Max2, Socket A, VIA KT400 (ATX) Non-Legacy.....	\$254.99
Abit KD7-E, Socket A, VIA KT333 (ATX).....	\$124.99
Abit KD7, Socket A, VIA KT400 (ATX) w/o RAID.....	\$149.99/\$104.99
Asus A7V8X, Socket A, KT400 (ATX).....	\$100.00
Asus A7V8X-DX, Socket A, nForce2 (ATX) Serial ATA.....	\$209.99
ECS K759A, Socket A, SiS 746 Chipset w/ LAN & Sound.....	\$94.99
ECS K759M-266, Socket A (MATX) w/ Video, Sound & LAN.....	\$94.99
Sony ST4800 DRAGON (Mini-ITX) (Platinum Edition).....	\$224.99

### Motherboards for Intel CPUs

Abit BE7-II, Socket 478, Intel i845PE (ATX) w/o RAID.....	\$139.99
Abit BE7, Socket 478, Intel i845PE (ATX) w/o RAID.....	\$139.99
Abit IT7-Max2-2.0, Socket 478, Intel i845PE (ATX) Non-Legacy.....	\$154.99/\$179.99
Asus P458X, Socket 478, Intel E720S Chipset (ATX).....	\$179.99
Asus P458X-Lite, Socket 478, Intel i845PE Chipset (ATX).....	\$179.99
Asus P458X-SATA/1394, Socket 478, Intel i845PE Chipset (ATX).....	\$219.99
Asus P458X, Socket 478, SiS 746 Chipset (ATX) Serial ATA.....	\$189.99
Asus P458X-DX, Socket 478, Intel i845PE Chipset (ATX).....	\$234.99
ECS P458A/DX, Socket 478, SiS 746 Chipset w/ LAN & Sound.....	\$99.99
ECS P455MG/650+, Socket 478 (MATX) w/ Video, Sound & LAN.....	\$99.99
ECS P68MT, Socket 370 (MATX) w/ Video, Sound & LAN.....	\$89.99
Sony ST4800 DRAGON Ultra Platinum Edition.....	\$224.99
Tyan S1854, FC-PGA & Slot 1, VIA 133 Chipset (ATX).....	\$149.99

Full List of Motherboards available on our Website

## Premier Soundcards & Speakers

SoundBlaster CT 12B.....	\$29.99
SoundBlaster LIVE 5.1.....	\$49.99
SoundBlaster Audigy Value.....	\$99.99
SoundBlaster Audigy Platinum.....	\$124.99
SoundBlaster Audigy 2.....	\$124.99
SoundBlaster Audigy 2 Platinum.....	\$124.99
SoundBlaster Exigy.....	\$124.99
Altec Lansing AVS-200 w/ 2 Speakers.....	\$24.99
Altec Lansing AVS-500 w/ 2 Speakers & Subwoofer.....	\$39.99
Altec Lansing AVS-500 w/ 4 Speakers & Subwoofer.....	\$64.99
Altec Lansing AVS-500 w/ 5 Speakers & Subwoofer.....	\$64.99
Altec Lansing AVS-500 w/ 6 Speakers & Subwoofer.....	\$164.99
Creative Inspire 4.1 2500 w/ 2 Speakers & Subwoofer.....	\$69.99
Creative Inspire 4.1 4400 w/ 4 Speakers & Subwoofer.....	\$84.99
Creative Inspire 4.1 5200 w/ 5 Speakers & Subwoofer.....	\$109.99
Creative Inspire 5.1 6900 w/ 6 Speakers & Subwoofer.....	\$164.99

## Premier CD/DVD-ROM & RW Drives

Sony EIC CD-ROM Drive (7.2MB/Sec).....	\$34.99
Pioneer / Sony / Toshiba 16X DVD-ROM Drive (Beige).....	\$59.99
Samsung MR DVD-ROM Drive (Black).....	\$69.99
Plexor Plextor CD-R-Writer (48x/24x/48x).....	\$154.99
Panasonic CD-R-Writer w/ Burn-Proof (40x/24x/40x).....	\$94.99
Samsung CD-R-Writer w/ Burn-Proof (48x/24x/48x) (Black).....	\$94.99
Sony CD-R-Writer w/ Burn-Proof (48x/24x/48x) (Beige).....	\$94.99
Sony CD-R-Writer w/ Burn-Proof (48x/24x/48x) (Black).....	\$94.99
Sony CD-R-Writer w/ Burn-Proof (52x/24x/52x) (Beige).....	\$94.99
Yamaha CD-R-Writer w/ Burn-Proof (44x/24x/44x) TO2 Tech.....	\$154.99
Pioneer DVR-A05 (DVD-R/RW & CD-R/RW).....	\$149.99

Full List of Drives Available Online

## Premier Video Cards

Asus v8180/DDR/SE GeForce4 MX440-8X 64Mb DDR TV-Out.....	\$99.99
Asus v8180/VS GeForce4 MX440-8X 64Mb DDR TV-Out.....	\$134.99
Asus v8200/DDR GeForce4 MX440-8X 64Mb DDR TV-Out.....	\$179.99
Asus v8200/VS GeForce4 MX440-8X 64Mb DDR TV-Out.....	\$224.99
ATI Xpert 2000 Pro w/ 32Mb SDRAM AGP.....	\$44.99
ATI Radeon 9000 w/ 64Mb SDRAM AGP w/ Video Out (Sapphire).....	\$134.99
ATI Radeon 9000 w/ 128Mb SDRAM AGP w/ Video Out (Sapphire).....	\$134.99
ATI Radeon 9000Pro w/ 128Mb SDRAM AGP w/ Video Out (Sapphire).....	\$134.99
ATI Radeon 9500 w/ 64Mb SDRAM AGP w/ Video Out (Sapphire).....	\$134.99
ATI Radeon 9500 w/ 128Mb SDRAM AGP w/ Video Out (Sapphire).....	\$134.99
ATI Radeon 9500Pro w/ 128Mb SDRAM AGP w/ Video Out (Sapphire).....	\$134.99
ATI Radeon 9500Pro w/ 128Mb SDRAM AGP w/ Video Out (Sapphire).....	\$134.99
ATI Radeon 9500Pro w/ 128Mb SDRAM AGP w/ Video Out (Sapphire).....	\$134.99
ATI All-in-Wonder Radeon 9700Pro w/ 128Mb SDRAM AGP.....	\$134.99
ATI All-in-Wonder Radeon 9700Pro w/ 128Mb SDRAM AGP.....	\$134.99
Leadtek WinFast GeForce4 A200 LE TD w/ 128Mb SDRAM.....	\$134.99

Full List of Video Cards Available Online

## Premier Fax Modems

56K Int. (v.90) FAX.....	\$14.99
Rockwell 56K Int. w/ Voice (v.90) PCI.....	\$19.99
US Robotics 56K Int. PCI WinModem / Hardware.....	\$29.99/\$79.99

## Premier Networks

SmartLink 10/100Mbit Ethernet Card.....	\$14.99
D-Link 10/100Mbit Ethernet Card.....	\$19.

# Moving from paper to Palm

By NESTOR GULA

I have a very eclectic way of staying organized. (Some people would challenge this statement, saying that I'm unorganized, but that's just outside opinion now, ain't it.) I used to rely mainly on my brain. My back-up was a day-timer – (which I frequently used to write things into but rarely used to check) and notes written on diverse scraps of paper, bits of envelopes, torn corners of sheets of paper, and when I still smoked, pieces of cigarette packages and matchbook covers. Since I've been married, I rely on my wife to remember the really critical things. For the most part, I was on time and never forgot to do things. About a year ago, I started having more and more things on my plate and I began carrying more notes around and having briefing sessions with my wife. Realizing that I was probably never going to use a paper day-timer the way it was intended, I decided to go electric and try out a PDA. There are two meanings to the acronym PDA – personal or portable digital assistant. Whatever the case, I decided

to try out the Palm m130 for several reasons, the biggest of which is that it is fully expandable with a host of accessories (like keyboards, wireless modems or Bluetooth adapters) and expansion cards (like the Dictionary/Thesaurus Card, Travel Cards of cities in the U.S., Europe or Asia-Pacific and memory cards.) There's only one Palm that is less expensive and has all the expandability – the monochrome m125. I initially wanted a monochrome Palm because the batteries last longer than in a colour Palm. But after a bit of thought I realized that the colour screen gives a lot more functionality to the PDA. The

and weighs 153 g (5.4 oz.). It has 8 MB of memory and displays thousands of colours at a resolution of 160x160 pixels. Its processing speed is 33 MHz but you are not buying this type of unit for its number crunching capability. It connects to a computer with a USB cable and is compatible with both PCs and Macs, which is great because I use both. It has some interesting software included: *MGI PhotoSuite* for viewing picture files and creating slide shows, as well as *Documents to Go*,



you use the Internet and mobile services on your Palm. You need the optional modem for this, though.

I've been using the Palm for about a month now. I'm still in the honeymoon phase of this experiment. I carry it

just about everywhere and

I write most everything down. I also check it quite often. It even has an alarm, which you can activate for events in your date book – it tells you to look at it. It is very easy to use – I was using it for a while before I decided to look at the manual. I find Graffiti (the special way to enter text into you, Palm if you don't want to hunt and peck for letters) pretty easy to use. I have yet to start using the additional software packages and to enter all my addresses and contact info. I can't say it has revolutionized my life, but it has given it a new dimension. ♦

## Realizing that I was probably never going to use a paper day-timer the way it was intended, I decided to go electric

m130 also offers a \$100 rebate until Feb. 3 that makes its price a more affordable \$299.99.

The m130 is one of the bigger Palms, at 12.2x7.9x2.3 cm (4.8x3.1x0.9 in.)

which lets the user manipulate *Word*, *Excel* or *PowerPoint* files on the Palm. Colour will come in handy for these applications. There's also an eBook reader and some other software that lets

## MICROPOINT COMPUTERS

All Prices are Already 4% Cash Discounted and Subject to Change Without Notice

<b>\$369</b> CELERON 1.2 GHZ PENTIUM-III MAINBOARD 128 MB SDRAM PC-133 30 GB HDD ATA100 SIS 630 VIDEO ONBOARD 6 CHANNEL SOUND 52X CD-ROM / 1.44 FDD 10/100 ETHERNET ONBOARD 180W SPEAKER PS/II KEYBOARD / MOUSE ATX MID TOWER CASE	<b>\$399</b> CELERON 1.7 GHZ ECS P455MG/GL+ M/B (USB 2.0) 128MB SDRAM PC-133 30 GB HDD ATA133 SIS 32MB VIDEO SHARED SOUND ONBOARD 52X CD-ROM / 1.44 FDD 10/100 ETHERNET ONBOARD 180W SPEAKER PS/II KEYBOARD / MOUSE ATX 300W TOWER CASE	<b>\$579</b> PENTIUM-4 1.7 GHZ P4 Mainboard (533MHz,USB2.0) 256MB SDRAM PC-133 40 GB HDD ATA133 SIS 64MB VIDEO CARD SOUND ONBOARD 52X CD-ROM / 1.44 FDD 10/100 ETHERNET ONBOARD 180W SPEAKER PS/II KEYBOARD / MOUSE ATX 300W P4 CASE	<b>Monthly Special</b> <b>1 \$699</b> INTEL PENTIUM-4 1.7 GHZ 17" MONITOR 256MB SDRAM PC-133 30 GB HDD ATA133 SIS VIDEO SHARED SOUND ONBOARD 52X CD-ROM / 1.44 FDD 10/100 ETHERNET ONBOARD 180W SPEAKER PS/II KEYBOARD / MOUSE ATX 300W TOWER CASE	<b>\$689</b> PENTIUM-4 1.7 GHZ ASUS P4SE MAINBOARD 256MB DDR266 RAM 40 GB HDD ATA133 GeFORCE 2 MX-400 64M 4X SOUND ONBOARD 40X10X40 CD-RW/1.44 FDD 10/100 NETWORK Keyboard & Wheel Mouse ATX 300W CASE / SPEAKERS * ASUS P4S533 +\$540	<b>\$779</b> PENTIUM-4 2.0 GHZ MSI 845E MAX 533MHZ M/B 256 MB DDR266 RAM 40 GB HDD ATA133 GeFORCE 2 MX-400 64M 4X SOUND ONBOARD 40X10X40 CD-RW / 1.44 FDD 10/100 NETWORK CARD Keyboard & Wheel Mouse ATX 300W CASE / SUBWOOFER * ASUS P4PE +\$560	<b>\$989</b> PENTIUM-4 2.0 GHZ Samsung 17" 753DF Flat Monitor ECS Mainboard (533MHz / USB2.0) 512MB SDRAM PC-133 60 GB HDD 7200RPM 48X16X48 CD-RW / 1.44 FDD GEFORCE 4 MX-440 64M TVOUT SOUND & LAN ONBOARD Internet KB & Wheel Mouse ATX 350W CASE / SUBWOOFER * P4 2.4 GHZ +\$560
<b>\$319</b> VIA 1.0 GIGA PRO PENTIUM-III MAINBOARD 128 MB SDRAM PC-133 30 GB HDD ATA133 VIA VIDEO ONBOARD 4 CHANNEL SOUND 52X CD-ROM / 1.44 FDD 10/100 ETHERNET ONBOARD 180W SPEAKER PS/II KEYBOARD / MOUSE ATX MID TOWER CASE	<b>\$339</b> AMD DURON Pro 1300+ ECS K7SEM MAINBOARD 128 MB SDRAM PC-133 30 GB HDD ATA133 SIS 730 VIDEO ON BOARD SOUND ONBOARD 52X CD-ROM / 1.44 FDD 10/100 ETHERNET ONBOARD 180W SPEAKER PS/II KEYBOARD / MOUSE ATX MID TOWER CASE	<b>\$439</b> AMD ATHLON XP 1700+ ECS K755A (SD&DDR) M/B 128 MB SDRAM PC-133 30 GB HDD ATA133 SIS 32MB VIDEO CARD SOUND ONBOARD 52X CD-ROM / 1.44 FDD 10/100 ETHERNET ONBOARD 180W SPEAKER PS/II KEYBOARD / MOUSE ATX MID TOWER CASE	<b>2 \$649</b> AMD ATHLON XP 1800+ 17" MONITOR 256MB SDRAM PC-133 30 GB HDD ATA133 SIS 64MB VIDEO CARD SOUND ONBOARD 52X CD-ROM / 1.44 FDD 10/100 ETHERNET ONBOARD 180W SPEAKER PS/II KEYBOARD / MOUSE ATX 300W TOWER CASE	<b>\$569</b> AMD ATHLON XP 1800+ ECS K755A (SD&DDR) M/B 256 MB DDR266 RAM 40 GB HDD ATA133 SIS 64MB VIDEO CARD SOUND ONBOARD 40X10X40 CD-RW / 1.44 FDD 10/100 ETHERNET ONBOARD 180W SPEAKER PS/II KEYBOARD / MOUSE ATX MID TOWER CASE	<b>\$629</b> AMD ATHLON XP 2000+ ASUS A7S333 M/B 256 MB DDR RAM PC-2100 40 GB HDD ATA133 GEFORCE 2 MX-400 64 MB 4X SOUND ONBOARD 40X10X40 CD-RW / 1.44 FDD 10/100 NETWORK CARD 600W SUBWOOFER SPEAKER Keyboard & Wheel Mouse ATX MID TOWER CASE	<b>\$919</b> AMD ATHLON XP 2000+ Samsung 17" 753DF Flat Monitor ECS K755A (SD&DDR) M/B 512MB SDRAM PC-133 60 GB HDD 7200RPM 48X16X48 CD-RW/16X DVD GEFORCE 4 MX-440 64M TVOUT SOUND & LAN ONBOARD Internet KB & Wheel Mouse ATX 350W CASE / SUBWOOFER * XP 2100+ +\$520
<b>MONITOR</b> SAMSUNG 17" 753DF \$199 19" 955DF \$359 15" LCD 1515 \$475 17" LCD 1715 \$735 VIEWSONIC 17" G70F \$259 15" LCD VE500 \$495 17" LCD VG700 \$759 NEC 19" AS95F \$345 15" LCD 1550V / BK \$499 17" LCD 1700V / BK \$809 MONTHLY SPECIAL 17" MONITOR \$165 15" LCD \$399 17" LCD \$689	<b>HARD DRIVE</b> MAXTOR / SAMSUNG / WD 30GB/40GB 7200RPM \$99/\$115 60GB/80GB 7200RPM \$135 / 165 120GB 7200RPM \$239 60G/80G 7200RPM 8M \$169/\$195 QUANTUM SCSI 10000 RPM 18GB / 36GB \$275 / 329 DVD/CD-RW 16X DVD \$59 LG 48X24X48 CD-RW \$79 LG 52X24X52 CD-RW \$99 LG 32X10X40X16 CDRW+DVDS119 \$359 TOSHIBA DVD-RW \$359 Pioneer 104 DVD-RW \$399 Pioneer A05 DVD-RW \$445	<b>PRINTER</b> EPSON C42UX (2880X720) \$65 CANON I320 (2400X1200) \$99 HP Deskjet 3420V (4800X1200) \$99 LEXMARK Z25 (1200X1200) \$79 LEXMARK X83 all-in-one \$195 LEXMARK E210 LASER \$279 OKIDATA OL 410E LASER \$199 SAMSUNG ML-1210 LASER \$279 MUSTEK 1200U SCANNER \$69 BEN-Q 4300U SCANNER \$75 NETWORK 10/100 BASE LAN CARD \$10 D-Link DI-604 4 Port Router \$75 D-Link DI-704P 4 Port Router \$95 LINKSYS 4 Port Router \$109 NETWORK CABLE \$0.30 / FOOT	<b>UPGRADE KITS</b> P-4 1.7 GHZ CPU ECS P-4 M/B (533MHZ/USB 2.0) SOUND & LAN ONBOARD 256 MB SDRAM PC-133 ATX 300W TOWER CASE \$369 AMD ATHLON XP 1800+ CPU ECS K755A MAINBOARD SOUND & LAN ONBOARD 256 MB SDRAM PC-133 ATX 300W TOWER CASE \$289	<b>VIDEO CARD</b> SIS 32MB VIDEO CARD \$35 SIS XABRE 400 64M AGP8X tv \$115 GEFORCE 2 MX-400 64M \$55 GEFORCE 4 MX-440 64M tvout \$79 ATI Radeon 7500 64M tvout \$85 ATI Radeon 9000 64/128M tv \$109/149 ATI Radeon 9700 128M tvout \$509 ATI All-in-w Radeon 7500 64M \$189 ATI All-in-w Radeon8500DV 64M \$289 ATI All-in-w Radeon 8500 128M \$409 MSI GeForce 3 TI-200 128M tv+at \$179 MSI GeForce 4 TI-4200 128M 8X \$299 MSI GeForce 4 TI-4600 128M tv \$389 MSI TV@anywhere TV TUNER \$89 ASUS V8420 G4 TI-4200 128M \$279 ASUS V8460 G4 TI-4600 128M \$439 Leadtek TV-2000XP TV TUNER \$99	<b>ECS LAPTOP</b> <b>TOP QUALITY HOT PRICE</b> I-BUDDIE A900 \$969 14.1" TFT / VIA 1.0 GIGA PRO 256M / 10G HDD / DVD-ROM MODEM/LAN/4 USB/TV OUT I-BUDDIE A901 \$1089 14.1" TFT / CELERON 1.2 Ghz 256M / 10G HDD / DVD-ROM MODEM/LAN/4 USB/TV OUT	<b>I-BUDDIE A928 \$1369</b> 14" TFT / INTEL P4 1.7 Ghz 256M DDR / 20G / DVD+CDRW modem/lan/USB2.0/TV/firewire (P4 2.0Ghz) +\$60 <b>I-BUDDIE A928 \$1449</b> 15" TFT / INTEL P4 1.7 Ghz 256M DDR / 20G / DVD+CDRW modem/lan/USB2.0/TV/firewire (40 GB HDD) +\$90 <b>I-BUDDIE A929 \$1319</b> 14" TFT / AMD XP 1800+ 256M DDR / 20G HDD / DVD modem/lan/USB2.0/TV/firewire (AMD XP 2000+ +\$30)

# Turning students into info scavengers

By HAROLD LASS

Ever been on a scavenger hunt? You know, where you have to race all over the place to be the first to grab all the lunatic loot on your list. Well, WebQuests are the cyber equivalent of a scavenger hunt. While there's no racing or loot involved, that doesn't mean it can't be fun and (here comes that "e" word) educational. The Web is the world's largest virtual community, and through the use of WebQuests, teachers and parents can help students find and explore its treasures.

Interested in leaving Earth? How about an orbital WebQuest? At "A City in Space" ([projects.edtech.sandi.net/mission/iss](http://projects.edtech.sandi.net/mission/iss)), you begin your quest as a colonist on the International Space Station (ISS). Of course, to qualify for the mission, you must undergo a rigorous orientation program to familiarize you with space. Up there, just opening the wrong hatch could prove fatal. By researching answers to questions in a series of activities, you'll learn a lot about life on the ISS — even down to what meals astronauts eat (like "thermostabilized chicken and irradiated beef enchiladas"). Or, if

distance isn't an issue, you could investigate the possibility of homesteading Mars in 2030 ([students.itec.sfsu.edu/itec815\\_s99/mdeschamp/index.html](http://students.itec.sfsu.edu/itec815_s99/mdeschamp/index.html)).

But you don't have to leave planet Earth for a worthwhile WebQuest. Canada's a good place to start. Many of us know little about people of Chinese, European and Aboriginal background and their contributions to Canadian culture. At "Preserving, Understanding and Transmitting Canadian Culture" ([schools.sd68.bc.ca/coal/pg/canada](http://schools.sd68.bc.ca/coal/pg/canada)), you can participate in quests aimed at reducing racism through knowledge of cultures

that make up the Canadian mosaic. Are you aware of the valuable contribution First Nations people made to the construction of roads and railways in early Canada?

WebQuests have recently become a popular tool for teachers and parents to guide student learning on the Internet, and they're easy to construct once you've identified a topic of interest. A quest consists of an introduction (provides some background information about the subject or task), a task (what you hope participants will accomplish by going on the quest), a process (the

steps required to complete the task), resources (a list of Web pages to visit to help complete the task), a conclusion (a reminder of what's been learned on the quest) and an evaluation (for teacher assessment).

If you're having trouble coming up with an introduction or a task, try the included checklist for helpful hints: [www.ozline.com/webquests/checklist.html](http://www.ozline.com/webquests/checklist.html). Teachers will find a template for building their very own WebQuest at [www.spa3.k12.sc.us/WebQuestTemplate/webquestemp.htm](http://www.spa3.k12.sc.us/WebQuestTemplate/webquestemp.htm). Simply complete it and let the quest begin. ♦

## WebQuests have recently become a popular tool for teachers and parents to guide student learning on the Internet



Bright Oceans Inter-Telecom Corporation Canada Branch

### KEIT Computers

We promise if any part has a problem in warranty we will exchange it with a new one (except physically damaged & Monitor & printer) 1 year parts & 3 years labor warranty on Hardware.

Address: 2022 Sheppard Ave. East (at Sheppard & Brian Dr.)  
MON-FRI: 10:30-19:00 SAT: 11:30-16:00 SUN: CLOSED

Email: [keit\\_computer@on.aibn.com](mailto:keit_computer@on.aibn.com)

[www.keitcomputer.com](http://www.keitcomputer.com)

Tel: (416) 493-3300

Fax: (416) 493-3308

Finch Ave.  
HWY 404  
Brian Dr.  
Sheppard Ave.  
Victoria Park

Intel Celeron 1G \$349		Intel Celeron 1.7G \$389		Intel P4-1.7G \$629		Intel P4-1.7G \$709		Intel P4 1.7G \$699		Intel P4 1.7G \$879	
Celeron 1.0G/1.2G/1.3G \$359/369/389		Celeron 1.4G/1.5G/1.6G \$409/429/449		P4-1.8G/1.9G \$649/669		P4-1.8G/1.9G \$729/749		P4-1.8G/1.9G/2.0G/2.1G/2.2G \$799/859/929/999/1049		P4-1.8G/1.9G/2.0G/2.1G/2.2G \$899/919/929/939/949	
AMD Duron 900 \$339		AMD XP 1700 \$539		AMD XP 1700 \$579		AMD XP 1800 \$639		AMD XP 2000 \$699		Intel P4 2.4B \$999	
Duron 1.3G/1.4G/1.5G \$359/369/389		Duron 1.6G/1.7G/1.8G \$409/429/449		Duron 1.9G/2.0G/2.1G/2.2G \$459/479/499/519		Duron 2.3G/2.4G/2.5G/2.6G \$519/539/559/579		Duron 2.7G/2.8G/2.9G/3.0G \$599/619/639/659		Duron 3.2G/3.4G/3.6G/3.8G \$699/719/739/759	
ECS K755A MainBoard		ECS K755A MainBoard		ECS K755A MainBoard		ECS K755A MainBoard		ECS K755A MainBoard		ECS K755A MainBoard	
256MB PC-133 SDRAM & Speaker		32M Video Card 4X AGP		40GB HDD & 1.44M FD		16Bit Sound & Network Card (On Board)		ATX Mid Tower Case 300W		Keyboard & Mouse & Pad	
change 256MB to 512MB ..... +\$30		change 32M to 64M ..... +\$10		change 40GB to 60GB ..... +\$20		change 16Bit to 32Bit ..... +\$10		change ATX to Micro ATX ..... +\$10		change Keyboard & Mouse & Pad to Logitech ..... +\$10	
*MONITOR*		*HARD DRIVE*		*VIDEO CARD*		*MAIN BOARD*		*SOUND CARD*		*ECS Laptops*	
15" NEC 1550V/17" NEC 1700V		40GB 5400rpm/7200rpm		ATI 12.5" Radeon 7500/retail		Socket 370 (P3, Celeron)		PINE 32bit PCI/ SB 128 PCI		Intel P4-1.5/2.0/2.4 \$1519/1599/1659	
15" Samsung 1515 white/silver		60GB 5400rpm/7200rpm		ATI 12.5" Radeon 7500/retail		Socket 423 (P4)		PINE 32bit PCI/ SB 128 PCI		15" TFT/20GB HDD/Lan/Modem	
17" Samsung 1715 white/silver		80GB 5400rpm/7200rpm		ATI 12.5" Radeon 7500/retail		Socket 478 (P4)		PINE 32bit PCI/ SB 128 PCI		256MB DDR/DVD+CDRW Combo	
18" Samsung 1817/19" 1917		120GB 160GB 5400rpm		ATI 12.5" Radeon 7500/retail		Socket 478 (P4)		PINE 32bit PCI/ SB 128 PCI		AMD XP1800/2000 \$1409/1429	
18" Viewsonic VE500/VX500		SEAGATE (7200rpm)		ATI 12.5" Radeon 7500/retail		Socket 478 (P4)		PINE 32bit PCI/ SB 128 PCI		(14.1" TFT/20GB HDD/Lan/Modem)	
17" LG 728LE		40GB/60GB 80GB		ATI 12.5" Radeon 7500/retail		Socket 478 (P4)		PINE 32bit PCI/ SB 128 PCI		256MB DDR/DVD+CDRW Combo	
17" LG 700S/E700B		Western Digital		ATI 12.5" Radeon 7500/retail		Socket 478 (P4)		PINE 32bit PCI/ SB 128 PCI		External Floppy Drive \$59	
17" Samsung 750S/753DF		40GB 5400rpm/7200rpm		ATI 12.5" Radeon 7500/retail		Socket 478 (P4)		PINE 32bit PCI/ SB 128 PCI		Laptop HDD 20G/40G \$149/229	
17" Viewsonic E70/E70P		80/100/120 (7200rpm)		ATI 12.5" Radeon 7500/retail		Socket 478 (P4)		PINE 32bit PCI/ SB 128 PCI		USB EX-HDD 4G/10G \$99/189	
17" Viewsonic E75/G75F		40/80/120/200 (8mb)		ATI 12.5" Radeon 7500/retail		Socket 478 (P4)		PINE 32bit PCI/ SB 128 PCI		*PRINTERS*	
17" NEC AS75F/FE771		*CDROM & DVD*		ATI 12.5" Radeon 7500/retail		Socket 478 (P4)		PINE 32bit PCI/ SB 128 PCI		Canon S330/S350/S370	
19" Aquaview 9L/LG E900B		LG 32X/Sony 16X DVD		ATI 12.5" Radeon 7500/retail		Socket 478 (P4)		PINE 32bit PCI/ SB 128 PCI		Epson C42UX/C62/C82	
19" Samsung 950B/955DF		*CD/DVD-WRITER*		ATI 12.5" Radeon 7500/retail		Socket 478 (P4)		PINE 32bit PCI/ SB 128 PCI		Lexmark Z25/X75/X125	
19" Viewsonic E90F/G90F		MSI 48x16x48 (Retail)		ATI 12.5" Radeon 7500/retail		Socket 478 (P4)		PINE 32bit PCI/ SB 128 PCI		HP 3420V/3820V/5550	
19" Viewsonic PF790/P95F+		LG 48x24x48/52x24x52 (software)		ATI 12.5" Radeon 7500/retail		Socket 478 (P4)		PINE 32bit PCI/ SB 128 PCI		HP G85(all-in-one)	
19" NEC AS90F/E991/A995F		Optimate 48x16x48		ATI 12.5" Radeon 7500/retail		Socket 478 (P4)		PINE 32bit PCI/ SB 128 PCI		Brother HL 1230/1440/1450	
19" SONY G410R/G420S		MSI GeForce4 Mx440 64M		ATI 12.5" Radeon 7500/retail		Socket 478 (P4)		PINE 32bit PCI/ SB 128 PCI		Samsung ML 1230/1250	
21" Samsung 1100p+/1200NF		MSI GeForce4 Mx440 128MB		ATI 12.5" Radeon 7500/retail		Socket 478 (P4)		PINE 32bit PCI/ SB 128 PCI		All price already 4% cash discounted.	
22" NEC AS120/PE1250+		MSI GeForce4 Mx440 256MB		ATI 12.5" Radeon 7500/retail		Socket 478 (P4)		PINE 32bit PCI/ SB 128 PCI		All price and availability subject to change without any notice.	
22" Viewsonic G810/G220FB		MSI GeForce4 Mx440 512MB		ATI 12.5" Radeon 7500/retail		Socket 478 (P4)		PINE 32bit PCI/ SB 128 PCI		Please call for product availability.	
22" Viewsonic P220P/P225F		MSI GeForce4 Mx440 1024MB		ATI 12.5" Radeon 7500/retail		Socket 478 (P4)		PINE 32bit PCI/ SB 128 PCI			

China Hong Kong San Francisco New York Uzbekistan Toronto

15 Years in Business

550 Alden Rd., Unit #110  
Markham, Ontario L3R 6A8  
Tel: (905)470-1425 Fax: (905)470-9556

# GREY TECH

## COMPUTER INC.

HARDWARE • SOFTWARE • ACCESSORIES

**DIRECTIONS**  
4 LIGHTS NORTH OF STEELES  
1 BLOCK WEST OF WARDEN  
**HOURS:**  
MON. - FRI. 9:00 a.m. - 6:00 p.m.  
SAT. 10:00 a.m. - 2:00 p.m.

### MOTHERBOARDS

<b>SOCKET A (AMD)</b>	
ASUS A7N8X	189
ASUS A7N8X-DX	219
ASUS A7S333-WA	119
ASUS A7V-266-C-WA	109
ASUS A7V-266-E-AA	119
ASUS A7V-333-GD	179
ASUS A7V-333-WA	149
ASUS A7V-333-RAID	189
ASUS A7V-333-X	139
ASUS A7V8X-WL	169
ASUS A7V8X-GBL	209
ASUS A7V8X-L-1394	189

<b>SOCKET 478 (PENTIUM IV)</b>	
ASUS P4BGL-VM-L	149
ASUS P4B533-E-L-R	229
ASUS P4B533-WA	169
ASUS P4B533-V-L	219
ASUS P4B533-VM-L	159
ASUS P4B533-V-L	319
ASUS P4PE-GBL-R	239
ASUS P4PE-L	189
ASUS P4PE-L-R	219
ASUS P4S333-VM-WA	129
ASUS P4S533E-WA-WL	159
ASUS P4S8X-WA-WL-G	209
ASUS P4T533	269
ASUS P4T533-C	249
ASUS P4T533-C-L	259

### CASES

<b>GREY-TECH</b>	
MIDTOWER	
GT-4JA6622 (400W / USB)	59
GT-4HL7 (350W)	49

<b>ENLIGHT</b>	
#7237 MID TOWER w/extra fan	59

<b>ANTEC</b>	
<b>MINI</b>	
PLUS660AMG	179
PLUS1080AMG	209
PLUS1500B (550W)	749
SLK1600 (300W/USB)	89
SLK2600AMB (300W/USB)	99
SLK3700AMB (350W/USB)	129
<b>FULL TOWER</b>	
PLUS1060 (330W/USB)	199
PLUSVIEW100 (CLEAR)	129
<b>PERFORMANCE SERIES</b>	
SX600II	89
SX1000II	109
SX1040BII (400W/10BAY)	169
SX1400B	599
SX630II (300W/8BAY)	129
SX835II (350W/8BAY)	149

### POWER SUPPLY

<b>ANTEC</b>	
<b>SOLUTION SERIES</b>	
SL350 (350W)	69
SL400 (400W)	99
SL450 (450W)	129
<b>TRUE POWER SERIES</b>	
TRUE 330 (330W)	89
TRUE 430 (430W)	129
TRUE 480 (480W)	159
TRUE BLUE 480 (480W)	169
TRUE 550 (550W)	189

<b>ENERMAX</b>	
EG365P-VEFMA (350W)	79
EG465P-VE (450W)	109
EG651P-VE (550W)	189

### CPU

<b>ATHLON MP 266MHz</b>	
<b>SOCKET A</b>	
ATHLON MP 2000 (1.67GHz)	259
ATHLON MP 2200 (1.80GHz)	349
ATHLON MP 2400 (2.00GHz)	379
<b>ATHLON XP 266MHz (RETAIL)</b>	
<b>SOCKET A</b>	
ATHLON XP 1700+TBOEM (1.47GHz)	99
ATHLON XP 1800+TB (1.53GHz)	129
ATHLON XP 2100+TB (1.73GHz)	159
ATHLON XP 2200+TB (1.80GHz)	WWW
ATHLON XP 2400+TB (2.00GHz)	309
ATHLON XP 2600+TB (2.13GHz)	469
ATHLON XP 2700+TB (2.17GHz)	549

<b>INTEL 400MHz (RETAIL)</b>	
<b>SOCKET 478</b>	
INTEL Celeron 1.7GHz	99
INTEL Celeron 1.8GHz	129
INTEL Celeron 2.0GHz	149
INTEL Celeron 2.1GHz	159
INTEL Celeron 2.2GHz	189
INTEL P4-1.8GHz w/512K	249
INTEL P4-2.0GHz w/512K	279
INTEL P4-2.4GHz w/512K	339

<b>INTEL 533MHz (RETAIL)</b>	
<b>SOCKET 478</b>	
INTEL P4-2.4GHz w/512K	339
INTEL P4-2.53GHz w/512K	399
INTEL P4-2.66GHz w/512K	509
INTEL P4-2.8GHz w/512K	639
INTEL P4-3.06GHz w/512K	1069

### UPGRADE KIT

Intel 1.7Ghz Celeron Processor  
P4 Motherboard with USB 2.0  
Onboard Video, Audio, & LAN  
128mb DDR memory

**\$279**

### SOUND CARDS

<b>CREATIVE LABS</b>	
BLASTER 128 (PCI/OEM)	39
BLASTER LIVE DIGITAL 5.1 (OEM)	59
BLASTER AUDIGY (OEM)	109
BLASTER AUDIGY X-GAMER	139
BLASTER AUDIGY MP3+	139
BLASTER AUDIGY2 (PCI)	189
BLASTER AUDIGY2 PLATINUM (INT)	269
BLASTER EXTIGY (EXT/USB)	209

### AMERICAN POWER UPS

<b>(Backup/Recharge/Power Cap.)</b>	
<b>BACK-UPS</b>	
BE350U (8/16HR/200W)	69
BE500U (11/24HR/300W)	99
BK500 (10/7HR/300W)	169
BK650MC (14/11HR/400W)	199
<b>BACK-UPS PRO</b>	
BP280S (23/4HR/180W)	189
BP420S (13/4HR/260W)	299
BP500UC (13/7HR/315W)	179
BP650S (13/4HR/410W)	399
BP1000 (16/3HR/670W)	559
BP1400 (23/6HR/950W)	709
<b>SMART-UPS</b>	
SUA750XL (50/3HR/600W)	659
SUA1000 (20/3HR/670W)	729
SUA1000XL (33/5HR/800W)	799
SUA1500 (24/3HR/980W)	949
SUA20NET (15/5HR/390W)	329
SUA20NET (13/5HR/260W)	429
SUA700NET (18/3HR/450W)	509
SUA2200NET (32/5HR/1600W)	1249
SUA3000NET (18/5HR/2250W)	1829

### EIDE DRIVES

<b>WESTERN DIGITAL</b>	
<b>7,200RPM</b>	
40.0 GB (400JB)	139
60.0 GB (600BB)	139
60.0 GB (600JB)	159
80.0 GB (800BB)	159
80.0 GB (800JB)	179
120.0 GB (1200BB)	229
120.0 GB (1200JB)	259
160.0 GB (1600BB)	389
160.0 GB (1600JB 8MB)	429
200.0 GB (2000BB)	439
200.0 GB (2000JB 8MB)	469

<b>MAXTOR</b>	
<b>7,200RPM</b>	
40.0GB (#6Y040L0)	139
60.0GB (#6Y060L0)	149
80.0GB (#6Y080L0)	169
120.0GB (#6Y120L0)	249
160.0GB (#6Y160L0)	349
160.0GB (#6Y160P0, 8MB)	389

<b>EXTERNAL 1394/USB 2.0</b>	
<b>5,400RPM</b>	
250GB (#S01J250)	709
<b>FIREWIRE</b>	
<b>7,200RPM</b>	
120GB (#T01J120)	409

<b>SCSI DRIVES</b>	
<b>USB 5400RPM</b>	
40GB (#X01USB2040)	229
80GB (#V01J080)	299
120GB (#X01USB2120)	349

<b>SEAGATE</b>	
<b>5,400RPM</b>	
40GB (ST340810A)	119
<b>7,200RPM</b>	
40GB (ST340016A)	129
60GB (ST360021A)	139
80GB (ST380021A)	169
120GB (ST3120023A)	249

<b>SERIAL ATA</b>	
120GB (ST3120023AS, 8MB)	279

### SCSI DRIVES

<b>SEAGATE</b>	
<b>10,000RPM</b>	
36.6GB (ST-336607LW)	369
73.3GB (ST-373307LW)	839
146GB (ST-3146807LW)	1649

<b>CHEETAH</b>	
<b>15,000RPM</b>	
18GB (ST-318453LW)	159
36GB (ST-336753LW)	599
73.3GB (ST-373453LW)	1169

### EXTERNAL DRIVES

<b>LACIE</b>	
<b>made for ideas</b>	
<b>POCKET DRIVES (FW &amp; USB)</b>	
30GB (4200RPM) #300136	379
40GB (4200RPM) #300353	419
60GB (5400RPM) #300190	639

<b>FIREWIRE (IEEE1394)</b>	
40GB (7200RPM) #300508D2	289
60GB (7200RPM) #300509D2	309
80GB (7200RPM) #300510D2	329
120GB (7200RPM) #300511D2	369
160GB (7200RPM) #300512D2	579
200GB (7200RPM) #300544D2	639
250GB (7200RPM) #300582D2	729
400GB (7200RPM) #300583D2	1249
500GB (7200RPM) #300584D2	1449

### MONITORS

<b>VIEWSONIC</b>	
17"	
E70B	209
E70	209
E70F / E70FB	249 / 249
E75F	279
G70F	259
G70FMB / G70FMB	289 / 289
G75F	299
P70F / P75F+	329 / 309
P75F+B	309

19"	
E90 / E90F	309 / 369
E90FB	369
E90FMB	389
E90F+SB	399
GS790	449
P95F+	409
P95F+BK	409

21"	
E220	699
G810	719
G220FB	759

<b>SAMSUNG</b>	
17"	
750S	199
700NF	359
753DF	229
757MB / 763MB	329 / 249
19"	
900NF	499
950B	299
955DF	349
955DFB	349

21"	
1100P+ / 1200NF	679 / 929

### LCD

<b>SAMSUNG</b>	
15"	
150MP	649
151SB / 151P	459 / 649
151MP / 151SB	839 / 459
151SS	459
152BB / 152BS	519 / 519
152T / 152TS	589 / 589
17"	
170MP	959
171MP / 172T	1189 / 909
171P / 171S	989 / 759
171SB / 171SS	759 / 769

18"	
181T	1359
181TB	1359
191T / 191T-B	1199 / 1199

<b>VIEWSONIC</b>	
15"	
VE155 / VE155B	479 / 469
VE150MB / VE500	519 / 489
VG500 / VG500B	559 / 549
VE150+	599
VG150M / VG150MB	549 / 549
VX500+	619

17"	
VE700 / VE175	749 / 749
VE170M / VE175B	749 / 749
VE170B / VG175	799 / 1069
VE170B	789
VG700 / VG700B	869 / 859
VX700 / VG750	929 / 919

18"	
VE800	929
VG800 / VG800B	1059 / 1059
VG181 / VG181B	1279 / 1259
VX800	1179

19"	
VX900 / VG191	1349 / 1409
VG191B / VG900B	1379 / 1239

20"	
VP201M / VP201MB	2149 / 2149
VX2000	2159

23"	
VP230MB	4039

<b>72" LCD PLASMA</b>	
VPW425	6299

<b>50" LCD PLASMA</b>	
VPW505	11709

### LASER PRINTERS

<b>HEWLETT PACKARD</b>	
HP 1000 / 1200 (10ppm/1200 dpi)	359 / 579
HP 1200N (15ppm/1200 dpi)	849
HP 1220 (15ppm/1200 dpi) w/scanner	749
HP 2200D / DT (19ppm/1200dpi)	1149/1359
HP 2200DN / DTN (19ppm/1200dpi)	1639/1999
HP 4100N / 4100TN (25ppm/1200dpi)	2329/2699
HP 4200 / 4200N (35ppm/1200dpi)	1729/2479
HP 4200TN / 4200DTN (35ppm/1200dpi)	2829/3199
HP 4200DTN (35ppm/1200dpi)	3369
HP 4200DTN (35ppm/1200dpi)	3659
HP 4300 / 4300N (45ppm/1200dpi)	2229/2949
HP 4300TN / 4300DTN (45ppm/1200dpi)	3299/3679
HP 4300DTN (45ppm/1200dpi)	3829
HP 4300DTN (45ppm/1200dpi)	4089

<b>COLOUR</b>	
HP 2500 / 2500L (16/4 ppm/600dpi)	1699 / 1449
HP 2500N / 2500TN (16/4 ppm/600dpi)	2149 / 2569
HP 4800 / DN (17/17 ppm/600dpi)	3179 / 3799
HP 4800DTN / HDN (17/17 ppm/600dpi)	5129 / 5929

<b>SAMSUNG</b>	
SAMSUNG ML1210 (12ppm/600dpi)	299
SAMSUNG ML1440 (15ppm/600dpi)	389
SAMSUNG ML1450 (15ppm/1200dpi)	429

### VIDEO CARDS

<b>ASUS</b>	
V8170 GEFORCE4 MX420 64MB	109
V9180TD-64 GEFORCE 4 MX440-8X 64MB	129
V9180VS-64 GEFORCE4 MX440-8X 64MB	189
V9280TD-64 GEFORCE4 TI-4200-8X 64MB	219
V9280TD-128 GEFORCE4 TI-4200-8X 128MB	249
V9280STD-128 GEFORCE4 TI-4200-8X 128MB	349

# 15 Years in Business

550 Alden Rd., Unit #110  
Markham, Ontario L3R 6A8  
Tel: (905) 470-1425 Fax: (905) 470-9556

# GREY TECH

## COMPUTER INC.

HARDWARE • SOFTWARE • ACCESSORIES

**DIRECTIONS**  
4 LIGHTS NORTH OF STEELES  
1 BLOCK WEST OF WARDEN  
**HOURS:**  
MON. - FRI. 9:00 a.m. - 6:00 p.m.  
SAT. 10:00a.m. - 2:00 p.m.

### CD-ROM / CDR/W DRIVES

<b>CD-ROM DRIVES</b>	
SONY 52x (EIDE)	39
LG 52x (EIDE)	39
LITE-ON 52x (EIDE)	39

### CDRE-WRITERS

LG GCE-8481BB (48x24x48)	89
LG GCE-8520B (52x24x52)	99
LG GCC-4320B COMBO	

(32x10x40)	129
------------	-----

LITEON 48246 (48x24x48)	89
-------------------------	----

LITEON 52246S (52x24x52)	99
--------------------------	----

PLEXTOR PX-320 COMBO	
----------------------	--

(24x10) DVD	229
-------------	-----

PLEXTOR W4012 (40x12x40)	159
--------------------------	-----

PLEXTOR W4824 (48x24x48)	169
--------------------------	-----

PLEXTOR W4824TABK	
-------------------	--

(48x24x48)	179
------------	-----

SAMSUNG SM-332 COMBO	
----------------------	--

(32x10x40, 16x DVD)	139
---------------------	-----

YAMAHA CRWF1EB (44x24x44)	179
---------------------------	-----

YAMAHA CRWF1EVK (44x24x44)	189
----------------------------	-----

### EXTERNAL

PLEXTOR (40x12x40, USB2.0)	269
----------------------------	-----

YAMAHA CRWFUVXK (44x24x44)	
----------------------------	--

USB 2.0	279
---------	-----

### DVD / RECORDER

<b>EIDE</b>	
-------------	--

LG DVD 16X	69
------------	----

PIONEER DVD4 16X (TRAY)	69
-------------------------	----

PIONEER DVR-A05	449
-----------------	-----

SONY 16X DDU162 (TRAY)	69
------------------------	----

### JEWEL CASES

<b>SINGLE</b>	0.25
---------------	------

<b>DOUBLE</b>	0.45
---------------	------

<b>QUAD</b>	0.75
-------------	------

<b>DVD-SINGLE</b>	0.59
-------------------	------

<b>DVD-DOUBLE</b>	0.69
-------------------	------

### CD LABELLING

BRIGHTWHITE (100)	8.99
-------------------	------

### SPEAKERS

INSPIRE 2500	69
--------------	----

INSPIRE 2600	79
--------------	----

INSPIRE 4.1 4400	79
------------------	----

INSPIRE 5.1 5200	109
------------------	-----

INSPIRE 6.1 6800	179
------------------	-----

MEGAWORKS 550	439
---------------	-----

MEGAWORKS 510D	439
----------------	-----

ALTEC LANSING AVS200 (3 SPKS)	29
-------------------------------	----

ALTEC LANSING AVS300 (3 SPKS)	49
-------------------------------	----

ALTEC LANSING AVS500 (5 SPKS)	69
-------------------------------	----

ALTEC LANSING 2100 2.1 (2+SUB)	199
--------------------------------	-----

ALTEC LANSING 221CN (2+SUB)	69
-----------------------------	----

ALTEC LANSING 4100CN (4+SUB)	179
------------------------------	-----

ALTEC LANSING 4100 (4+SUB)	189
----------------------------	-----

ALTEC LANSING 621 (2+SUB)	179
---------------------------	-----

ALTEC LANSING 641CN (4+SUB)	239
-----------------------------	-----

ALTEC LANSING 251CN (4+SUB)	129
-----------------------------	-----

ALTEC LANSING 220CN (4+SUB)	49
-----------------------------	----

ALTECLANSING XA3001	49
---------------------	----

ALTECLANSING XA3021	109
---------------------	-----

ALTECLANSING XA3051	229
---------------------	-----

YAMAHA TSS-1	279
--------------	-----

### SCSI CONTROLLERS

<b>ADAPTEC</b>	
----------------	--

SERVERS & WORKSTATIONS	
------------------------	--

AVA-2906 (RETAIL)	89
-------------------	----

AVA-2930U (PCI/RETAIL)	139
------------------------	-----

FIRECONNECT 4300	99
------------------	----

USB 2.0/1394 CARD	189
-------------------	-----

2400A - RAID (EIDE/RETAIL)	529
----------------------------	-----

19160KIT (RETAIL)	339
-------------------	-----

29160 (RETAIL)	449
----------------	-----

29160 (OEM/CABLE)	379
-------------------	-----

29160N (RETAIL)	419
-----------------	-----

39160 (RETAIL)	499
----------------	-----

<b>NOTEBOOK</b>	
-----------------	--

AHA-1350 KIT	99
--------------	----

AHA-1460 PCMCIA SCSI CTRL	169
---------------------------	-----

AHA-1480 PCMCIA SCSI CTRL	239
---------------------------	-----

FIRE CONNECT CARDBUS	139
----------------------	-----

<b>PROMISE</b>	
----------------	--

ULTRA 133	69
-----------	----

ULTRA TX2-100	59
---------------	----

FASTRAC 100TX	149
---------------	-----

FASTRAC 100 PRO TX2 KIT	299
-------------------------	-----

FASTRAC TX2000	189
----------------	-----

FASTRAC TX2000 PRO	399
--------------------	-----

SUPERTRAC SX8000	499
------------------	-----

SUPERTRAC SX8000 PRO	719
----------------------	-----

SUPERSWAP 1000	129
----------------	-----

### DESK JET / INKJET

<b>HEWLETT PACKARD</b>	
------------------------	--

HP DESKJET 3420V	99
------------------	----

HP DESKJET 3820V	149
------------------	-----

HP DESKJET 5550	189
-----------------	-----

HP DESKJET CP1700	699
-------------------	-----

HP DESKJET CP1700D	839
--------------------	-----

HP DESKJET CP1700PS	849
---------------------	-----

HP DESKJET 1220Cxi	559
--------------------	-----

HP DESKJET 1220C/PS	749
---------------------	-----

HP DESKJET 6122	279
-----------------	-----

<b>MULTI-FUNCTION</b>	
-----------------------	--

HP 2110PSC	289
------------	-----

HP 2210PSC	469
------------	-----

HP 3300MFP	729
------------	-----

HP 3320MFP	919
------------	-----

HP 3320N-MFP	1349
--------------	------

HP 3330MFP	1009
------------	------

HP D155XI	919
-----------	-----

HP D135	579
---------	-----

HP 4100MFP	3099
------------	------

<b>BROTHER</b>	
----------------	--

BROTHER HL-1440	379
-----------------	-----

BROTHER MFC4800	459
-----------------	-----

BROTHER MFC6800	649
-----------------	-----

BROTHER MFC8500	649
-----------------	-----

BROTHER MFC9700	869
-----------------	-----

BROTHER 3100C	239
---------------	-----

BROTHER 5100C	369
---------------	-----

BROTHER MFC7150C	289
------------------	-----

<b>EPSON</b>	
--------------	--

STYLUS C80N	479
-------------	-----

STYLUS C80WN	659
--------------	-----

STYLUS 1520	679
-------------	-----

STYLUS 3000	1359
-------------	------

STYLUS PHOTO 785EPX	229
---------------------	-----

STYLUS PHOTO 820	149
------------------	-----

STYLUS PHOTO 825	289
------------------	-----

STYLUS PHOTO 890	419
------------------	-----

STYLUS PHOTO 925	389
------------------	-----

STYLUS PHOTO 1280	689
-------------------	-----

STYLUS PHOTO 2200	1029
-------------------	------

<b>MODEMS / PALMTOP</b>	
-------------------------	--

<b>MODEMS</b>	
---------------	--

<b>AOPEN</b>	
--------------	--

AOPEN 56K INT VOICE (PCI-PX)	49
------------------------------	----

<b>LINKSYS</b>	
----------------	--

CABLE MODEM WITH USB ETH.	139
---------------------------	-----

<b>3COM</b>	
-------------	--

USR 56K INT V.90 (PCI-HIM)	119
----------------------------	-----

USR 56K EXT V.92	139
------------------	-----

USR 56K USB VOICE	209
-------------------	-----

<b>PALMTOPS</b>	
-----------------	--

<b>PALM M125</b>	149
------------------	-----

<b>PALM M130</b>	359
------------------	-----

<b>PALMM505</b>	379
-----------------	-----

<b>PALMM515</b>	489
-----------------	-----

<b>PALMZIRE</b>	159
-----------------	-----

<b>CASIOBE-300</b>	279
--------------------	-----

<b>CASIOE-115</b>	489
-------------------	-----

<b>SCANNERS</b>	
-----------------	--

<b>HEWLETT PACKARD</b>	
------------------------	--

HP SCANJET 2300C (8"x11")	99
---------------------------	----

HP SCANJET 3500C (8"x11")	149
---------------------------	-----

HP SCANJET 3570C (8"x11")	219
---------------------------	-----

HP SCANJET 4570C (8"x11")	279
---------------------------	-----

HP SCANJET 5500C	429
------------------	-----

HP SCANJET 7400C (8"x14")	649
---------------------------	-----

HP SCANJET 7450C (8"x14")	899
---------------------------	-----

HP SCANJET 7490C (8"x14")	1189
---------------------------	------

<b>EPSON</b>	
--------------	--

PERFECTION 1260U PHOTO	179
------------------------	-----

PERFECTION 1660U PHOTO	269
------------------------	-----

PERFECTION 2400U PHOTO	339
------------------------	-----

PERFECTION 2450U PHOTO	559
------------------------	-----

<b>CANON</b>	
--------------	--

N640PEX	109
---------	-----

D1250U2F	199
----------	-----

5000F	289
-------	-----

8000F	379
-------	-----

LIDE20	109
--------	-----

LIDE30	159
--------	-----

<b>MICROTEK</b>	
-----------------	--

3800 (8.5"x11")	69
-----------------	----

4800 (8.5"x11")	109
-----------------	-----

4900 (8.5"x11")	139
-----------------	-----

5900 (8.5"x11") / 4" x 5"	229
---------------------------	-----

5700 (8.5"x11")	279
-----------------	-----

6800 (8.5"x11")	499
-----------------	-----

8700 (8.5"x14" / 8"x10")	579
--------------------------	-----

	1039
--	------

### DIGITAL CAMERAS

<b>CANON</b>	
--------------	--

<b>DIGITAL CAMERAS</b>	
------------------------	--

POWERSHOT A30	CALL
---------------	------

POWERSHOT A40	CALL
---------------	------

POWERSHOT G3	CALL
--------------	------

POWERSHOT S30	CALL
---------------	------

POWERSHOT S230	CALL
----------------	------



Ask For Our  
In Store Service  
& Repair Professionals  
We do on Site  
Networks for Home  
& Business

# 3 MONTH NO PAYMENT

## WE WILL BEAT ANY

**\$549<sup>77</sup>**

### SUMMIT STARTER

#### Pentium4 @ 1.7 GHz

P4 s478 Integrated MB  
w/4x agp 2 USB ports  
256 SDRAM Pc133  
30 GB ATA 100 Hard Drive  
1.44 Floppy Drive  
52x CD Rom Drive  
300W Mid Tower  
32MB Savage4 Video Shared  
10/100 Network Card  
16 Bit Sound O/B  
Amplified Speakers  
PS/2 Mouse  
104 Win Keyboard  
4 Months Free AOL Internet Offer

**\$879<sup>77</sup>**

### SUMMIT VALUE

#### Celeron @ 2.0GHz

P4 s478 Integrated MB  
w/4x agp 2 USB ports  
256 Meg SD-RAM  
60 GB 7200 rpm Hard Drive  
1.44 Floppy Drive  
300W Mid Tower  
32MB Savage4 Video Shared  
10/100 Network Card  
104 Win Keyboard  
3 Button Mouse  
16 Bit Sound O/B  
Amplified Stereo Speakers  
CD Re-Writer included  
17" SVGA Color Monitor  
Microsoft XP CD/License.  
4 Months Free AOL Internet Offer

**\$1299<sup>77</sup>**

### SUMMIT EXTRA

#### Pentium 4 @ 2.0 GHz

W/512 L2 Cache

S478 Integrated MB  
w 4x AGP 2 USB ports  
Memory 256 Meg Ram  
60 GB ATA 133 Hard Drive  
1.44 Floppy Drive  
ATX 300W Mid Tower  
32MB Savage4 Video  
Ps2 Keyboard  
Ps2 Mouse  
48x CDRe-Writer  
SB Compatible Soundcard  
10/100 Lan Network Card  
Amplified Stereo Speaker System  
15" LCD Flatpanel Color Monitor  
Windows XP with CD/License  
4 Months Free AOL Internet Offer

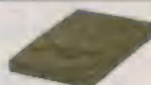
**\$1499<sup>77</sup>**

### SUMMIT ULTRA

#### Pentium 4

Asus P4S 533 MB  
512 DDR RAM  
80 GB 7200 rpm Hard Drive  
1.44 Floppy Drive  
320W Mid Tower  
64MB Geforce 4  
Internet Keyboard  
Optical Scroll Mouse  
16 Bit SB Compatability  
16X DVD w/Software  
48X CDR-W w/Software  
17" Samsung 750  
ALTEC ACS21W  
Win XP CD/License  
Norton Antivirus  
4 Months Free AOL Internet Offer

#### Hard Drives



40 GB 5400rpm	\$ 119 <sup>77</sup>
30 GB 7200rpm	\$ 109 <sup>77</sup>
40 GB 7200rpm	\$ 129 <sup>77</sup>
60 GB 7200rpm	\$ 139 <sup>77</sup>
80 GB 7200rpm	\$ 164 <sup>77</sup>
120 GB 7200rpm	\$ 229 <sup>77</sup>

#### Networks & Accessories

D-Link 538TX	\$ 17 <sup>77</sup>
3COM 10/100	\$ 52 <sup>77</sup>
D-LINK DSS 5+ 5 PORT 10/100	\$ 69 <sup>77</sup>
D-LINK DSS 8+ 8 PORT 10/100	\$ 89 <sup>77</sup>
D-LINK DSS 16+ 16 PORT 10/100	\$ 179 <sup>77</sup>
D-LINK 704p ROUTER	\$ 109 <sup>77</sup>

#### Sound Cards

CREATIVE SB LIVE 5.1	\$ 49 <sup>77</sup>
CREATIVE SB AUDIGY OEM	\$ 99 <sup>77</sup>
CREATIVE SB AUDIGY 2	\$ 199 <sup>77</sup>
CREATIVE SB ADGY.2 Plat.	\$ 289 <sup>77</sup>

#### Printers

LEXMARK Z25	\$ 49 <sup>97</sup> *
* after \$30.00 mail in rebate	
LEXMARK Z35	\$ 99 <sup>97</sup>
LEXMARK Z55	\$ 159 <sup>97</sup> *
* after \$30.00 mail in rebate	
LEXMARK X63	\$ 219 <sup>97</sup>
LEXMARK X75	\$ 189 <sup>97</sup>
LEXMARK X83	\$ 199 <sup>97</sup>
LEXMARK E210	\$ 269 <sup>97</sup>
EPSON Stylus 820	\$ 149 <sup>97</sup>
EPSON Photo 785EPX	\$ 229 <sup>97</sup>
HP656C	\$ 89 <sup>97</sup>
HP 3820v	\$ 149 <sup>97</sup>
HP LASERJET 1000	\$ 369 <sup>97</sup>
HP LASERJET 1200	\$ 599 <sup>97</sup>
SAMSUNG ML 1210	\$ 269 <sup>97</sup>
SAMSUNG ML 1440	\$ 329 <sup>97</sup>

#### Scanners

Artec e+ USB	\$ 74 <sup>77</sup>
Acer 3300U	\$ 69 <sup>77</sup>
HP SCANJET 3500C	\$ 149 <sup>77</sup>
HP SCANJET 4570C	\$ 299 <sup>77</sup>
HP SCANJET 7400C	\$ 649 <sup>77</sup>
EPSON 2400 Perfection	\$ 339 <sup>77</sup>
W/FILM & SLIDE ADAPTOR	

#### Motherboards

Asus P4PE-GBL-R	\$ 249 <sup>77</sup>
Asus P4PE-L	\$ 219 <sup>77</sup>
Asus P4T533-C	\$ 254 <sup>77</sup>
Asus P4B533	\$ 179 <sup>77</sup>
Asus P4S533	\$ 159 <sup>77</sup>
Asus P4S-E	\$ 114 <sup>77</sup>
Asus A7N8X	\$ 179 <sup>77</sup>
Asus A7V8X	\$ 159 <sup>77</sup>
ECS K7S5A	\$ 89 <sup>77</sup>
ECS Socket478 Integr.	\$ 94 <sup>77</sup>

#### Monitors

DAYTEK / KDS / S	17" 0.27 dpi
	19" 0.27 dpi
SAMSUNG	
	17" 753DF
	17" 763MB
	19" 955 DF
NEC	
	17" AS 70
	19" AS95F
	22" AS 125F
LCD Displays	
	15" NEC 1550V
	15" Samsung 1
	17" Samsung 1
	18" Viewsonic V

#### Brampton

Near Steeles & Kennedy  
30 Rambler Dr #10  
Tel: (905) 874-9521  
Fax: (905) 874-9175

#### Burlington

744 Guelph Line  
Tel: (905) 631-9555  
Fax: (905) 631-7681

#### Etobicoke

868 The Queensway  
Tel: (416) 201-0258  
Fax: (416) 201-0186

#### Hamilton

1320 Barton Street E.  
Tel: (905) 548-9555  
Fax: (905) 548-0200

#### Mississauga

4141 Dixie  
Rockwood  
Next to Ro  
Tel: (905) 2  
Fax: (905) 2

\* All prices already 3% cash discounted. All prices subject to change without notice. We reserve the right to limit quantities. Hawk is a trademark of Summit Direct. All Hawk Systems come with a 3 year warranty. All prices are the property of their owners Summit Direct Inc. and some of their associated stores are not obligated to honor sale prices. Summit Direct Inc.

# T NO INTEREST PLAN !!!

## ADVERTISED PRICE!!\*

We Now Offer  
Extended Warranties  
On All Items  
See Store For Details!



\*See Store For Details!

99<sup>77</sup> \$1799<sup>77</sup> \$1949<sup>77</sup> \$3149<sup>77</sup>

### TITAN

### SUMMIT THUNDER

### SUMMIT PERFORMER

### HAWK MAX

#### 2.4 GHz

W/512 L2 Cache

Drive

40 Video

Sound

ire

Monitor

akers

Internet Offer

#### AMD Athlon XP 2000+ Mhz

ASUS A7V 8x MB  
512 Meg DDR RAM (PC-333MHz)  
80 GB ATA 100 7200 rpm Hard Drive  
1.44 Floppy Drive  
ATX A-Open Mid Tower  
Geforce 4 Ti 8x 128Meg Video  
Wireless Keyboard  
Wireless Mouse w. Wheel  
SB Live 5.1 OEM  
48x CDRW w/Software  
16x DVD Rom Drive  
Altec Lansing AVS300 Speakers  
19" SVGA Color Monitor  
Win XP CD/License  
MS Works Suite 2003  
Norton Antivirus 2003  
4 Months Free AOL Internet Offer

#### Pentium 4 @ 2.53B Ghz

W/512 L2 Cache

ASUS P4B 533 MB  
512 DDR RAM (PC-333MHz)  
80 GB ATA 100 7200 rpm Hard Drive  
1.44 Floppy Drive  
320W Deluxe Mid Tower  
ATI Radeon 9000 w. 128 Meg Ram  
MS Internet Keyboard  
Logitech Optical Scroll Mouse  
24 Bit SB Compatible Sound  
48x CDRW w/Software  
16x DVD Rom Drive, 10/100 Lan  
Altec Lansing AVS300 Speakers  
19" Samsung Flat Color Monitor  
Win XP CD/License  
MS Works Suite 2003  
Norton Antivirus 2003  
4 Months Free AOL Internet Offer

#### Pentium 4 @ 2.8B Ghz

W/512 L2 Cache

ASUS P4T 533-C MB  
512 MB Rambus Memory (1066MHz) 533 Mhz FSB  
120 GB ATA 133 7200 rpm Hard Drive  
1.44 Floppy Drive  
Hawk ATX P4 Mid-Tower HX45-A  
ATI Radeon 9000 pro 128 Meg Video  
17" Samsung 171S LCD Flatp. Monitor  
Microsoft Internet keyboard OEM  
Microsoft Optical wheel mouse-OEM  
SB Live Audigy-OEM- Sound Card  
Pioneer 16 x DVD Drive  
52x24x52 CD-RW Drive  
Altec Lansing 251CN 6pc Speakers  
10/100 Lan Ethernet Adapter  
Windows Xp Cd/License  
MS Works Suite 2003

Monitors come with 3Year  
Manufacturer Warranty

ITRON

\$ 179<sup>77</sup>

\$ 259<sup>77</sup>

\$ 219<sup>77</sup>

\$ 229<sup>77</sup>

\$ 344<sup>77</sup>

\$ 219<sup>77</sup>

\$ 369<sup>77</sup>

\$ 729<sup>77</sup>

\$ 529<sup>77</sup>

\$ 449<sup>77</sup>

\$ 729<sup>77</sup>

\$ 1069<sup>77</sup>

## NOTEBOOK SPECIALS!!!

\$1149<sup>77</sup>

#### Intel Celeron @ 1.1 GHz

Intel Celeron 1.1GHz CPU  
256 SD RAM (PC-266MHz)  
10GB Hard Drive  
8x DVD Rom Drive  
56k Fax Modem  
10/ 100 Lan  
16 Bit Sound  
Integrated Speakers  
4 USB Ports  
14.1" XGA TFT Screen  
TV out



WOW!

WOW!

\$1799<sup>77</sup>

#### Pentium 4 @ 2.4 Ghz

Intel P4 2.4Ghz CPU  
512 DDR RAM (PC-266MHz)  
40GB Hard Drive  
8x DVD, 32x CDRW Combo  
56k Fax Modem  
10/ 100 Lan  
16 Bit Sound  
Integrated Speakers  
15" XGA TFT Screen  
4 USB 2.0 Ports  
IEEE 1394 Firewire  
TV out

#### Video Cards

ATI Radeon 9000 128Meg \$129<sup>77</sup>  
Geforce Ti 8x 128 Meg \$269<sup>77</sup>  
ATI All in Wond. Rad. 7500 \$199<sup>77</sup>

#### Fax Modems

56k v90 PCI \$ 19<sup>77</sup>  
56k v90 AOPEN Fm56 PCI \$ 47<sup>77</sup>  
USRobotics 56k OEM PCI \$ 79<sup>77</sup>

## UPGRADE UPGRADE

AMD Athlon Xp 1800+ \$ 329<sup>77</sup>  
Socket 462 MB, 256 Meg  
SDRam, ATX Mid Tower

Intel Celeron 1.7 Ghz \$ 299<sup>77</sup>  
P4 Mainboard, 256 Meg  
SDRam, ATX Mid Tower

Pentium 4 1.7 Ghz \$ 399<sup>77</sup>  
P4 Mainboard, 256 Meg  
SDRam, ATX Mid Tower

#### CD- RW/ DVD/ CDROM

52x CD Rom \$ 34<sup>77</sup>  
32x10x40X16DVD Combo \$ 129<sup>77</sup>  
48x16x48 \$ 79<sup>77</sup>  
52x24x52 \$ 99<sup>77</sup>  
Pioneer DVD RW A05 \$ 449<sup>77</sup>

#### CD-MEDIA

80 min 100 Spindle \$ 37<sup>77</sup>  
80 min 50 Spindle \$ 19<sup>77</sup>

### sauga

d.  
all  
I Bank  
2-9555  
2-0195

### Newmarket

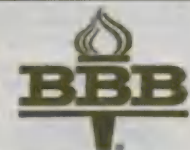
1100 Davis Drive Unit #1  
Tel: (905) 953-9900  
Fax: (905) 953-9412

### North York

2150 Steeles Ave.W.  
Tel: (416) 410-9555  
Fax: (905) 738-8363

### St. Catharines

145 Carlton St. Unit 2 & 3  
Corner of Lake & Carlton  
Tel: (905) 682-9555  
Fax: (905) 682-9968



a 6 month power exchange warranty and 7 years labour. All trademarks and trade names are used to identify entities claiming the marks and names of their products. All trademarks

xc. will not be responsible for typing, or printing errors. System prices may change due to market fluctuations of components.

# Musical Odyssey: Bang the drum electronically

By NESTOR GULA

In last month's column I mentioned that recording a great sound from a bass guitar was the hardest thing to do. A close second is getting a drum sound recorded properly. A good drummer really makes the band work. Interesting percussion will turn a relatively lame piece of music into brilliant art. Percussion is the heartbeat of the gods, capturing this is extremely tricky.

## Live drums

Live drums present a standard problem for the home recording studio — they are loud and the various frequencies put out by an energetic drummer will have the whole house shimmying and shaking. If you are insisting on recording a live drummer, or perhaps just some percussion tracks, then experimentation is the key.

The standard layout for a drum kit is to put one microphone in the kick drum and two microphones positioned above the drum kit. Because you are using more than one mike, you will need a mixer to blend the sound of the drums properly. (Incidentally this three-mike

system evolved from the early recording techniques and the standard home recording four-channel tape mixer — you would be able to record the drums on three tracks and then bounce the drums onto the one remaining track.)

The easiest way to get a half-decent sound is to listen to the two overhead mikes first, repositioning them as needed for a good sound. Once you have an acceptable sound you can turn up the mike in the kick drum to a level you find decent. If you are blessed with a large mixing board and a plethora of mikes, you should point one at the snare and then try to point the others at the toms. This all depends on how many mikes you have and how many channels your mixer has. When mixing with many mikes you should start with the overhead mikes as well, bringing up the individual mikes for flavour.

If you are just recording some rhythm patterns on a set of tablas, bongos, djembe or even Tupperware, then you will spend a lot of time experimenting with a proper mike setup to get a nice sound for your recording. I had a set of Roto-Toms for a while and I had a devil of a time getting a good sound out of them. I even-

tually grew tired of the constant setup I had to do to record a track and traded them in — for a drum machine.

## Drum machine

I used to be morally opposed to drum machines — I thought that it was musical cheating and provided uninspired and repetitive drumming for music. I checked my pride in one day and played around with one at a store, and then traded the above-mentioned Roto-Toms in to buy such a machine.

Drum machines are great for the home recorder. Not only do they not make any noise (unless hooked up to an amp), they require no complex microphone setup. Some of them have individual outs so you can vary the mix between individual drum sounds. This is similar to miking a real drum set, except that you will not get the overhead mikes giving you the rich sound of the complete drum kit. When using a drum machine, you will have to play with effects like equalization, reverb and chorus to get the warmth of the sound. These effects will come from external effect units or from your recording software itself. Most drum machines have MIDI, so you can trigger

the drum machine using your computer's recording software.

## Loops

Loops are patterns that are repeated in music. Far from being a new concept, looping was used by experimental musicians for many years. The difference was they used tape loops and complex technology. Loops now are easy to record and store on your computer's hard disk. You can buy literally thousands of drum loops that you can incorporate into your music. Each drum loop is like a drum pattern. You can repeat it ad infinitum or blend it with another drum loop or loops to create really cool syncopations.

As with miking a live drum kit, recording electronic drums, either from a drum kit or loops, is an experimental process. Approaching this as a fun learning experience is the best way to get excellent results. ♦



FREE FREE FREE FREE FREE FREE FREE FREE FREE FREE FREE FREE

FREE GTA And Surrounding Area Pickup\*!

Auction4it.com



Dell 21" Flat Screen Trinitron  
IBM 19" Trinitron Black  
Compaq/Dell/Viewsonic 17"  
Start Bid \$1



Compaq 17" SVGA  
0.26mm Monitor (Black)  
w/USB Hub  
Start Bid \$1



Cobra microTalk  
2-Way FRS220 Radios  
14 Ch and 38 Sub-Ch. 2 Pack  
Start Bid \$1



AOpen 5 Port 10/100 Mbps  
Switching Hub  
CAT5e Cable/Cables/Jack  
Start Bid \$1



Yamaha USB 2.0  
External CDRW  
12x24x24 Portable CD-RW  
MP3 CD Player CRW70  
Start Bid \$1



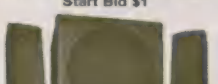
DVD Media  
DVD-R/RW 4.7Gb 50Packs  
CD-R 80Min 48X 100 Packs  
Start Bid \$1



Upgrade Combo  
AMD Duron 950MHz (1400+)  
256MB/Video/Snd/350W Case  
Start Bid \$1



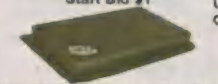
ATI Radeon 7000/9000 64MB  
ECS 315P 64MB AGP w/3DVR  
GeForce MX200 32MB/64MB  
GeForce MX400 64MB w/TV  
GeForce MX440SE 64MB w/TV  
Start Bid \$1



Yamaha YST-M5201 Black  
3-Pcs Subwoofer Speaker  
Start Bid \$1



ATX Multimedia ProCase  
Silver+Side Exhaust+USB  
Start Bid \$1



USB 2.0/1.0 Hi-Speed Ultra Slim  
Portable Alum. HDD Enclosure  
Start Bid \$1

## Inkjet Cartridge

(Check online for full listing)

Epson

Photo 750 Color 3 Pack \$32.99

440/670/740 Color 3 Pack \$27.99

440/670/740 Black 3 Pack \$22.99

640/860/1160 Color 3 Pack \$27.99

740/860/1160 Black 3 Pack \$26.99

Stylus 880/880i Black 3 Pack \$27.99

C42UX Color 3 Pack \$47.99

C50/C60 Color 3 Pack \$40.99

C60 Black 3 Pack \$40.00

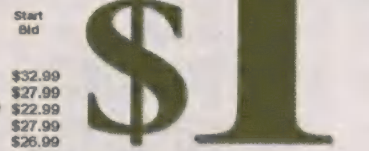
C80 Black 3 Pack \$58.99

Canon

2000/4000/5000/400 Color 3 Pack \$21.00

2000/4000/5000/400 Black 3 Pack \$21.99

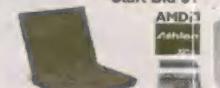
3000/6000/8400/5600 Color 3 Pack \$27.99



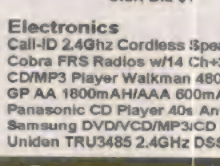
Upgrades/Accessories  
ATX P4 350W MidTower ProCase \$1  
AOpen 6 Channel Sound Card \$1  
Ethernet Card ISA/PCI + PCMCIA \$1  
ECS P4 533FSB RAID Motherboard \$1  
USB 2.0 PCI Upgrade Card \$1  
LG DVD+CDRW Combo Drive IDE \$1  
Maxtor 30/60/80 GB 7200RPM HDD \$1



Intel P4 2.0GHz 256MB/60GB/DVD/LAN/Snd  
Intel Celeron 2.0GHz 256MB/30GB/CDRW/Mdm/LAN  
AMD XP 2200 256MB/60GB/CDRW/LAN/Snd  
AMD XP2000 256MB/30GB/DVD/56K/LAN/Snd  
Start Bid \$1



Dell P1266/13.3" TFT/128M/4G/CD  
Upgrade Combo:  
AMD XP2000/256MB/350W Case  
Intel Celeron 2.0/256MB/350W Case  
Start Bid \$1



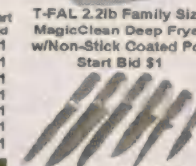
Electronics  
Call-ID 2.4GHz Cordless Speakerphone \$1  
Cobra FRS Radios w/14 Ch+38 Sub-Ch \$1  
CD/MP3 Player Walkman 480s AntiSkip \$1  
GP AA 1800mAh/AAA 600mAh Ni-MH \$1  
Panasonic CD Player 40s AntiShock \$1  
Samsung DVD/CD/MP3/CD Player \$1  
Uniden TRU3485 2.4GHz DSS Titanium \$1



Hamilton Beach  
Meal Maker Express  
Indoor Electric Grill  
Start Bid \$1



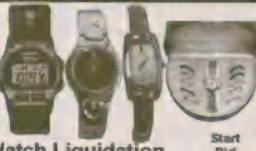
T-FAL 2.2lb Family Size  
MagicClean Deep Fryer  
w/Non-Stick Coated Pot  
Start Bid \$1



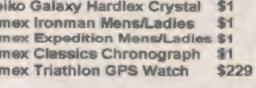
Lagostina Pro-Clad  
Knife Set  
Start Bid \$1



Lagostina Marina  
Fine SS Flatware 43pcs  
Start Bid \$1



Watch Liquidation  
Acuet/Citizen 11 Style Ladies \$1  
Citizen Elegance Gold Ladies \$1  
Casio Edifice Watch 100M \$1  
Kenneth Cole Mens/Ladies \$1  
Seiko Galaxy Hardlex Crystal \$1  
Timex Ironman Mens/Ladies \$1  
Timex Expedition Mens/Ladies \$1  
Timex Classics Chronograph \$1  
Timex Triathlon GPS Watch \$229



Quamex Jumbo Alarm  
Clock w/Thermometer  
Start Bid \$1



Lagostina Extra  
Large Sauté Pan 5.7L  
Start Bid \$1



Uniden 900MHz 2Line Cordless  
Panasonic Digital Answer Sys.  
Start Bid \$1

Inkjet Cartridge - Best Deals - Save up to 70%

Visit us @ <http://www.Auction4it.com>

\*Check Online For Promotion Details

New End of Line Factory Refurbished Products Arriving Daily!

New & Refurbished Products Backed By Minimum 30-Day Warranty!

Email: [sales@auction4it.com](mailto:sales@auction4it.com)

Toll Free: 1-877-808-8352

Fax: 416-754-4284

# Adventures in digital video: Golden rules and mean screens

By LEE RICKWOOD

In our last adventure, some "rules" were described that can help you make more attractive and engaging digital video images.

The idea is not to blindly adhere to the rule, of course, but to understand it, apply it when needed and to break it when you have a creative reason to do so.

The Rule of Thirds, described last time, sets down guidelines for image composition, that's all. It points out that certain areas of any image provide a strong anchor point for our eyes, one that can be ignored or implemented at will. The rule is based on centuries of artistic — and mathematic — precedent should not be ignored.

TV screens can't be divided perfectly into three, so the rule, no matter how tried and true, can't be followed exactly.

Which is good — again, the rule is really a guideline. If you have a good reason for not following it, well, don't. The best image is not only the one that follows the rules; it's often the one that

serves the purpose, the one that meets your needs, the one that "feels right."

But if nothing feels just right, that's when remembering the Rule can help. It does have a solid foundation, one that goes back centuries.

That foundation is called the Golden Mean, or Golden Section, and it refers to those proportions or ratios most pleasing to the human eye, whether for emotional, aesthetic or cosmological reasons. Images or constructions that follow the Golden Mean are intrinsically pleasing, and artists and architects since ancient Greek and Roman times have sought to capitalize on the visually comfortable nature of the Golden Mean.

TV screens have not. They seem sized

according to criteria other than "conforming."

Just so you know, the Golden Mean is represented by the Greek letter phi, and the decimal representation of phi is 1.6180339887499 ...

It's close, but not exactly the decimal representation for our old friend, the TV screen: 4:3 = 4/3 or 1.333 ... is its aspect ratio. Widescreen or letter-boxed images, also known as 16:9, are close, but still no cigar: 16/9 = 1.777...

Of course, digital video only complicates matters. Its technical specifications (ITU-601, formerly CCIR) designate a DV pixel format of 720x480, or a ratio of approximately 1.5. The standard CCIR 601 specification, 720x486, works out to roughly 1.481481 ...

Interestingly, with so many popular media display formats not conforming to the Golden Mean, there is some speculation that because we so rarely see it these days, we may in fact be losing our affinity for the perfect ratio.

If you're not numbered-out by now, there is plenty of additional information

on the Web about the Golden Mean, aspect ratios, television screen formats and by implication, how absolutely unrelated TV is to any aesthetic consideration of visual proportions.

Next time, I promise, no history, no math — just more adventures in digital video, and how creativity can beat bad proportions every time. ♦

## more INFO

For more information about the Golden Mean, geometry, aspect ratios, and image displays, visit the following Web sites:

A Quick Guide to DV Resolution and Aspect Ratio Conversion:  
www.uwasa.fi/~176998/video/conversion/

Information on Multimedia Data Representations:  
www.cs.sfu.ca/undergrad/CourseMaterials/CMPT479/material/notes/Chap3/Chap3.html

The Golden Mean and Elements of Design:  
www.tcm.mit.edu.au/notes/GoldenMean/golden1.htm

The Golden Mean and other related topics:  
thegoldenmean.homestead.com

Some common media display ratios:		
21:9	2.35:1	Cinemascope/panavision film
16.65:9	1.85:1	Some American cinema film
16:9	1.78:1	Widescreen TV
15:9	1.66:1	European films
14.56:9	1.62:1	Golden section
12:9	1.33:1	Standard TV

2785 Bathurst Street, Unit 105  
North York, Ontario M6B 3A3  
Tel: (416) 781-0496 Fax: (416) 781-2759  
Email: support@cybraian.ca

Lawrence  
Glencairn  
Beside Royal Bank  
Free Parking in  
Parking Lot

## Cybraian Computer

Check our latest price @ [www.cybraian.ca](http://www.cybraian.ca)

Store Hours  
Mon - Fri: 10:00am-7:30pm  
Sat: 10:00am-5:00pm

\*\*\* Free Parking In Parking Lot \*\*\*

### ECS Desknote

(Check details on website)

**New Model Come In**  
Via 1 GIG Pro CPU, 14.1TFT  
128MB, 10G HDD, CDRW,  
56K Modem, LAN, Speaker  
S-Video, VGA, 4 USB Ports  
128MB+DVD **\$949**

**Celeron-1.2GHz \$1079**  
14.1TFT, 256MB, 10G HDD, DVD, 56K Modem, LAN,  
Speaker, S-TVOut, VGA, 4USB Ports

**Intel P4 C-1.7GHz \$1219**  
15.1TFT, 128MB, 20G HDD, DVD, 56K Modem, LAN,  
Speaker, S-TVOut, VGA, 4USB Ports

**Intel P4 -1.7GHz \$1449**  
15 TFT, 256MB DDR, 20G HDD, DVD/CDRW, LAN,  
56K Modem, Speaker, TVOut, VGA, IEEE1394, 4USB2  
2.0A/2.4A G /40GB/512MB + \$60/110/80/80

**Intel P4 -1.7GHz \$1649**  
14.1 TFT, 256MB DDR, 20G HDD, DVD/CDRW  
56K Modem, LAN, TV-out, VGA, 4USB Ports, 1 PCMCIA

**Internal Li-ion Battery**  
2.0A/2.4A G /40GB/512MB + \$60/110/80/140

**AMD Athlon 1GB \$1299**  
14.1TFT, 128MB, 20G, 56K Modem, LAN, 2 USB Ports,  
1.44MB Floppy, 1 PCMCIA, DVD/CDRW

**Internal Li-ion Battery**

**\$849 Intel P4-2.0A**  
ASUS P4553-E M/B  
256MB DDR RAM  
30GB ATA-133 HDD  
LG 48x24x48 CDRW  
LG 16x DVD  
Sony 1.44MB Floppy  
GF4 Mx440 64M W/TV  
S-1 Stereo Sound  
10/100 Ethernet Card  
300W ATX Case  
Compaq K/B, Mouse, SPK

**\$579 Intel P4-1.7G**  
ECS P455A M/B  
256MB SDRAM  
30GB ATA-133 HDD  
LG 48x24x48 CDRW  
LG 16x DVD  
Sony 1.44MB Floppy  
ATI 32M Video Card  
(Non-integrated)  
16 Bit Stereo Sound  
10/100 Ethernet Card  
300W ATX Case  
Win98 K/B, Mouse, SPK

**\$749 AMD XP2000**  
ASUS AT79X M/B  
256MB DDR RAM  
30GB 7200RPM HDD  
LG 48x24x48 CDRW  
LG 16x DVD  
Sony 1.44MB Floppy  
GF4 Mx440 64M W/TV  
S-1 Stereo Sound  
10/100 Ethernet Card  
300W ATX Case  
Compaq K/B, Mouse, SPK

**\$649 AMD XP1700**  
MSI K14 VL 8-AGP M/B  
256MB DDR RAM  
30GB 7200RPM HDD  
LG 48x24x48 CDRW  
LG 16x DVD  
Sony 1.44MB Floppy  
GeForce2 64MB Video  
S-1 Stereo Sound  
10/100 Ethernet Card  
300W ATX Case  
Win98 K/B, Mouse, SPK

**\$449 AMD XP1300**  
ECS K755A M/B W/2 USB  
128MB SDRAM  
30GB ATA-133 HDD  
LG 48x24x48 CDRW  
Sony 1.44MB Floppy  
ATI 32M Video Card  
(Non-integrated)  
16 Bit Stereo Sound  
10/100 Ethernet Card  
300W ATX Case  
Win98 K/B, Mouse, SPK

**\$319 AMD XP1300**  
PC Chips M/B W/2 USB  
128MB SDRAM  
30GB ATA-133 HDD  
NEC 52x CDRW  
1.44MB Floppy Drive  
64MB Video Shared  
16 Bit Stereo Sound  
10/100 Ethernet Card  
300W ATX Case  
Win98 K/B, Mouse, SPK

**HARD DRIVE**  
MAXTOR (ATA-133)  
30GB 7200rpm \$1103  
40GB 7200rpm \$1119  
60GB 7200rpm \$1125  
80GB 7200rpm \$1149  
120GB 7200rpm \$219  
200GB 7200rpm \$489

**VIDEO CARD**  
ATI  
Radeon 7500 64MB DDR DDR \$6879  
Radeon 5500 128M # 8 \$245  
Radeon 9000 64M 128M \$99/125  
Radeon 9000Pro 64M 128M \$135/199  
Radeon 9500 64M 128M \$219/249  
Radeon 9500 Pro 128M \$265  
Powercolor 9700Pro 128M \$445  
Radeon 9700Pro 128M OEM \$499  
Radeon 9700Pro 128M Box \$635  
A-W 7500 64M OEM/Box \$179/169  
A-W 8500 64M OEM/Box \$251/265  
A-W 8500 128M OEM/Box \$335/305  
A-W 9700Pro 128M OEM/Box \$549/549

**CRT MONITOR**  
LG  
17 700S \$1179  
17 E700S Flat \$206  
17 F700S Flat \$209  
19 V900S Flat \$335  
19 W900S Flat \$415  
NEC  
17 A570 \$205  
17 A570E Flat \$225  
17 F570 Flat \$235  
19 A900 \$305  
19 W900 Flat \$339  
VIEWSONIC  
17 E700 Flat \$385  
19 E900 Flat \$459  
19 G900 Flat \$475  
19 P950 \$499

**ICD PANEL**  
15 NidM15A \$359  
15 KD5 PD-S \$419  
15 Benq FP557 \$318  
15 NEC 1550V \$465  
17 Proview \$639  
17 Abatron L1 761 \$649  
17 Auna FP751 \$659  
17 Samsung T715 \$798  
17 NEC 1700V \$784  
18 Benq T880 \$849

**Winter Special**  
**\$999 (Tax Included)**  
**Intel P4-2.0A**  
512MB RAM  
60GB 7200 HDD  
LG 48x24x48 CDRW  
Sony 1.44MB Floppy  
64MB 3D Video Shared  
16 Bit Stereo Sound  
10/100 LAN  
Win98 K/B  
Wheel Mouse  
180W Speaker  
300W ATX Case  
**17 LG 700S CRT Monitor**

**\$888 (Tax Included)**  
**Intel P4-1.7G**  
256 MB RAM  
40GB 7200 HDD  
LG 48x24x48 CDRW  
Sony 1.44MB Floppy  
ATI 32MB 4x AGP Video  
16 Bit Stereo Sound  
10/100 LAN  
Win98 K/B  
Wheel Mouse  
180W Speaker  
300W ATX Case  
**17 LG 700S CRT Monitor**

All prices are already 4% cash discounted. Other form of payment will be cash discounted price plus 4%. Price subject to change without notice. 30% re-stocking fee. All sales are final.

# Text messages come to car radios



By SUE BOWNESS

If you're the type of driver who appreciates traffic reports on the radio but would rather listen to rock than talk, you may be interested in radioText ([www.radiotext.ca](http://www.radiotext.ca)), a new technology that provides an alternative to flipping between stations. By taking over the display screen on your car radio, where station call letters usually appear, radioText technology turns this important dashboard space into an information hub, providing breaking news about traffic, weather, headlines and even song titles.

With 200,000 cars in the Greater Toronto Area already equipped to receive the radioText signal, and General Motors currently pre-installing the specialized receiver in 75 per cent of its new cars, radioText has seen increased popularity in Canada over the last few years. Yet the technology itself is hardly new — by now the receiver required to access radioText is almost standard in Europe, where the technology was developed almost 20 years ago to convey traffic information.

In Canada, radioText owes its advancement and growing popularity in large part to a Toronto-based company called E-radio. Founded in 1999 by Jackson Wang and Jason Chang, E-radio has spent the past four years promoting radioText not only to consumers, but also to broadcasters. The company has managed to persuade several Toronto stations to support the new technology, with Q107, Edge102, CHUM FM, Y108, Kiss 92, CHFI, Energy 93.1 and Country 95.3 all carrying radioText messages. Beyond the GTA, Barrie's 103.1, CHAY and Windsor's 93.9 are also involved.

Their participation means that radioText receivers will display station-specific information about the current song's title and artist, in addition to the latest headlines and weather reports.

## Getting a closer look

The radioText screen is larger than you might imagine, certainly with more room than the standard radio's display space. In fact, the radioText screen can vary in dimension from a smaller version measuring 2.5x12.7 cm (1x5 in.) to the more deluxe 8.9x12.7 cm (3.5x5 in.) display with touch screen programming. Though the messages are continuously updated, the driver must press a button on the display in order to access them, so that the text does not accidentally divert the driver's attention from the road. As you might imagine, the distraction factor has been one of the greatest sources of hesitation for installing the system in an already busy dashboard.

As far as content goes, the messaging sequence is consistent between both display sizes and is station-specific as well. Each 64-character radioText message is displayed for one minute continuously, and rotates through a cycle of four constantly updated segments: A "Now Playing" segment containing artist and title information on the current song, a "Breaking News" segment containing information like headlines or sports scores, a "Public Service" segment with weather and traffic details, and of course a one minute advertising segment.

Besides the rotating messages, radioText adjusts the standard radio display so that the proper station name appears (for example, 102.1 will display as "The Edge") as well as the type of

music (ie. rock), which is handy for deciphering the genres available when visiting a new city. When travelling from one city to another, the receiver will also adjust the station reception based on the geographic location. For example, if a driver is listening to the CBC in Toronto and driving towards London, the station will switch over to the London CBC when the Toronto signal becomes weak.

The receiver's geographic sensitivity and other features rely on an underlying technology called Radio Data System (RDS), which effectively piggybacks on the FM band in order to receive signals. Yet in both Europe and North America, the industry is already advocating a move towards the more autonomous Digital Audio Broadcast (DAB) technology, which operates on a different frequency and uses MPEG2 data reduction, allowing for a faster signal transmission (you may recognize DAB as the frequen-

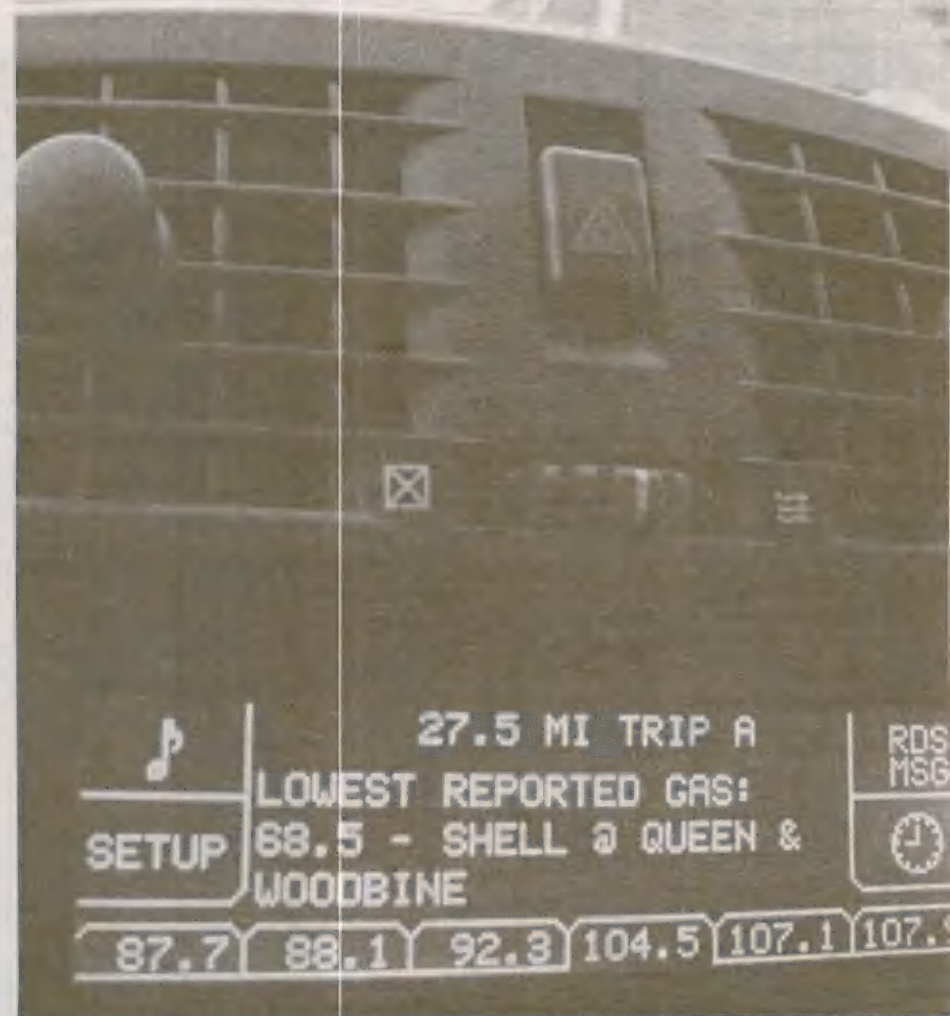
cy generally touted to replace FM). E-radio and other advocates anticipate that this technology will soon become the standard for radioText, and indeed DAB receivers are set to be installed in 2003 vehicles.

Witnessing radioText for the first time, you realize it is one of those "why didn't we think of this before" technologies. Not only does the Now Playing display end the guesswork in trying to find out the name of that great new song playing on your way to work, but having the option to access practical, relevant information at the touch of a button just makes sense.

In keeping with the theory that a more informed driver is a better driver, radioText is definitely a technology worth considering.

E-Radio itself now offers retrofitting of the radioText receivers onto existing systems. ♦

**As you might imagine, the distraction factor has been one of the greatest sources of hesitation for installing the system in an already busy dashboard.**



# Digital Words: Adobe PDF and a printer's paradise

By JEFF CHAPMAN

Until quite recently, publishers and printers were accustomed to dealing with "hard copies" of documents. While the desktop publishing technology of the '80s and '90s had allowed many independent publishers to prepare and print out their originals themselves, the whole business was decidedly primitive. Small publishers printed out their publications at home, using whatever printers were available, and then stuffed those precious originals into envelopes and carried them over to the print shop or copy shop, where their originals were entrusted to the strangers behind the counter, who would do their best to produce reasonably true copies.

## Add flaws here ... and here ... and here

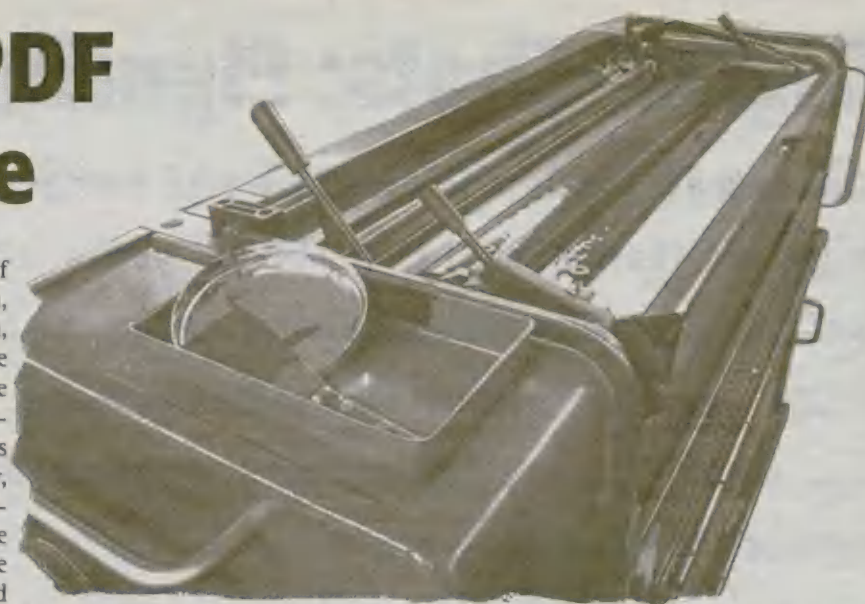
Every non-digital step of the process introduced new opportunities for imperfection. Since few home users had access to high-resolution laser printers, the publication's image quality was often halved by the time it was transferred from the screen to the page. In those all-too-common cases where the would-be publisher was compelled to rely on some half-dead, low-resolution, low-on-ink bubble jet printer to produce the originals, the publication that had looked so good on the screen might be barely legible on paper. Any smears, stains, folds, tears, cat hairs or toner-stained fingerprints the publication happened to pick up on its way from the printer to the print shop were there to stay. And if the precious originals were torn in the process of copying — and they always were — the horrific cycle would begin again, as the publisher was compelled to produce and deliver a new set of originals.

Those who could afford to use professional print shops instead of heading over to Kinko's had the option of trying to supply their material in digital form as a massive collection of document files and images. This worked, providing the publisher and the printer were

both using the same version of the same publishing program, running on the same platform, had all the same versions of the same typefaces installed and the publisher's monitor was perfectly calibrated to the print shop's output device. Unfortunately, this never happened, particularly since most home users use PCs and most print shops use Macs, and since home users tend to use free or cheap typefaces and print shops tend to use professional, expensive typefaces. The results the print shops came up with often looked a little different from what the small publisher had in mind, necessitating time-consuming and sometimes expensive rounds of proofs and corrections.

## PDF to the rescue

While most people probably still think of it as an annoyingly slow browser plug-in forced upon them by lazy webmasters, Adobe Acrobat's Portable Document Format (PDF) can be put to good use by small publishers. Adobe's format is basically a highly compressed Encapsulated Post Script (EPS) file — it strips out all the information that isn't needed and leaves only the mathematical instructions necessary to reproduce a given document on a specified output device — and it can be viewed and outputted by both PC and Mac users with the free and widely available Acrobat Reader utility from Adobe. While one does need to purchase and install the full version of Adobe Acrobat in order to create PDFs, it isn't necessary to use Adobe desktop publishing software like PageMaker or InDesign; any program that can output EPS files (that is, almost every desktop publishing or technical illustration program on the market) can be used to make PDF files. Adobe isn't keeping this very useful technology to itself; indeed,



the latest version of QuarkXPress, the main competitor to Adobe InDesign, has a PDF export command built right into its file menu.

To create PDF files, one simply loads a component of Adobe Acrobat called "Distiller," specifies certain basic output settings (resolution, colour or black and white, etc.) and feeds it an EPS file, which is then stripped to its bare essentials and converted into a PDF file. The entire publication — including all formatting, text, images and typefaces — is then rendered as a single PDF file, which fits on a single CD-R and might even be small enough to simply e-mail to the print shop.

The beauty of PDF files is that what appears on the creator's screen will bear a very strong resemblance to what comes out of the print shop's high-resolution output device. Colour matching still isn't flawless, unfortunately, but the embedded fonts, images, special characters, margins and so forth will all be reproduced exactly the same on two different machines, even on two different platforms, and what appears on paper will match what is on the screen as closely as possible. By putting off the conversion of a document into analogue format until the last possible moment — the creation of the finished product by the high-quality output devices — small publishers can achieve much higher resolutions and more professional-looking results. ♦

2800 14th. Ave. Unit 11, Markham  
TEL: 905-479-8922 FAX: 905-479-8997  
E-Mail: info@look4computer.com  
All Prices are already 4% cash discounted.  
Prices are subject to change without notice.

## NEW LEGEND

LOOK4COMPUTER.COM

**WE FIX AND UPGRADE  
OLD COMPUTER!**  
PRICES CHANGE QUICKLY. FOR THE LATEST PRICES  
VISIT [WWW.LOOK4COMPUTER.COM](http://WWW.LOOK4COMPUTER.COM)

<p><b>AMD Duron 1400+...\$335</b></p> <p>ALL-IN-ONE MOTHERBOARD 128MB PC133 SDRAM VIDEO ONBOARD SOUND ONBOARD LAN ONBOARD 30GB HDD / 1.44 FDD 52X CDROM ATX 350W MID TOWER CASE PS/2 KEYBOARD / PS/2 MOUSE</p>	<p><b>INTEL C1100...\$379</b> <b>C1300...\$399</b></p> <p>MSI 6348LT MOTHERBOARD 128MB PC133 SDRAM VIDEO ONBOARD SOUND ONBOARD LAN ONBOARD 30GB HDD / 1.44 FDD 52X CDROM ATX 350W MID TOWER CASE INTERNET KEYBOARD PS/2 WHEEL MOUSE / SPEAKER</p>	<p><b>CDROM CDRW DVD</b></p> <p>52X CDROM LG/SONY...\$134 16X DVD LITEON/SONY...\$418/189 16X DVD PIONEER TRAY...\$63 LG 48X24X8/SONY 48X12X48...\$73/76 LITEON 48X24X8/SONY 48X12X48...\$72/82 MSI 48X16X48 Box...\$73 PLEXTOR 40X12X48/48X24X48...\$148/100 LG 32X10X40CDRW/16X DVD COMBO...\$109 PIONEER DVD ADVISOR 106...\$254/15</p>	<p><b>VIDEO CARD</b></p> <p>EC5 SIS 32MB AGP/64MB TV/O...\$35/59 ATI Xpert 2000 32MB/INT2 32MB...\$45/43 ATI RADEON 7000 64MB SDR TV/O...\$57 ATI RADEON 7000 64MB DDR...\$89 ATI RADEON 7500 64MB SDR TV/O...\$64 ATI RADEON 7500 64MB DDR TV/O...\$73 ATI RADEON 9000 128MB TV/O...\$135 GE2 MX400 64MB TV...\$53/60 GE4 MX440 64MB DDR TV/O...\$77 ATI RADEON 7000 64MB TV PCI...\$88 INT2 M64 32MB PCI...\$55</p>	<p><b>HARD DRIVE</b></p> <p>SEAGATE 7200rpm 40G...\$119 40G...\$139 80G...\$155</p> <p>MAXTOR 5400rpm 40G...\$94 30G...\$97 40G...\$109 60G...\$128 80G...\$145 160G...\$375</p> <p>WD 7200rpm 40G/8MB...\$119/131 40G...\$112 60G/8MB...\$142/143 80G/8MB...\$152/169 120G/8MB...\$235/275</p>	<p><b>FAX MODEM</b></p> <p>300V V92 FAX/MODEM...\$17 56K ACPIR V92 PCI...\$23 56K ACPIR V92 PCI HARD...\$38 56K USB V92 PCI...\$27 56K USB V92 2976...\$59 56K USB EXTERNAL...\$69</p>	<p><b>PRINTER</b></p> <p>CANON BJC 1200/850/5750...\$99/125/147 EPSON C4200/C42C/82...\$71/42/225 LEXMARK Z230/35/55...\$62/95/166 SAMSUNG ML1210/1450 LASER...\$289/419</p>
<p><b>AMD XP2000...\$799</b> <b>XP2100...\$819</b></p> <p>MSI K13 ULTRA2 DOR333 MB 256MB 333MHz DDR RAM GE4 MX 440 64MB TV/O 30GB HDD 7200 RPM ATA 133 1.44 FDD / 16X DVD 48X24X8 CDRW SOUND ONBOARD 56K V92 FAX/MODEM 10/100 NIC ADX FRONT USB MID TOWER CASE LOGITECH KEYBOARD LOGITECH OPTICAL WHEEL MOUSE SPEAKER</p>	<p><b>INTEL P4 1.8GA...\$789</b> <b>P4 2.0GA...\$819</b></p> <p>VIA P4M-PRO MOTHERBOARD 256MB 266MHz DDR RAM VIDEO ONBOARD SOUND ONBOARD LAN ONBOARD 40G HDD 7200RPM ATA 133 1.44 FDD / 16X DVD 48X24X8 CDRW 56K V92 MODEM ADX 350W FRONT USB MID TOWER CASE LOGITECH ACCESS KEYBOARD PS/2 WHEEL MOUSE SPEAKER</p>	<p><b>MOTHERBOARD</b></p> <p>EC5 P455A...\$95 EC5 K755A...\$64 ASUS A7V333/17V333 Raid...\$142/175 ASUS A7N-8X/17V333...\$182/215 ASUS A7M266A/17V333...\$309/158 ASUS P4553P/4553S 5475 MB...\$105/146 ASUS P4553P/4553S 5475 MB...\$193/219 MSI 6346 5370 ALL-IN-ONE MB...\$89 MSI 6547E 5475 DDR333...\$119 MSI 6712-020 K1400 DDR400 AGP8X...\$125 GIGABYTE GA7V7/V7/V7/V7...\$115/129/155 GIGABYTE GA6553...\$125</p>	<p><b>MONITOR</b></p> <p>SAMSUNG 15 1515 LCD...\$433 SAMSUNG 17 7805/783DF...\$65/193 SAMSUNG 19 950B/950DF...\$269/332 NEC 17 AS 70 / AS75F...\$195/219 NEC 19 AS90 / AS95F...\$279/342 LG 15 543N...\$187 LG 17 7005 / E7008...\$178/215 LG 19 89008...\$299</p>	<p><b>SOUND CARD</b></p> <p>4CH PCI...\$16 88 128 PCI...\$27 98 LIVE 5.1...\$47 98 LIVE AUDIO...\$95 98 AUDIOGY GAMER (BOX)...\$136 98 AUDIOGY Mp3+ (BOX)...\$135 98 AUDIOGY2 (BOX)...\$175 98 AUDIOGY2 PLATINUM (BOX)...\$265 98 AUDIOGY EXTREME (BOX)...\$199 98 AUDIOGY PLATINUM EX (BOX)...\$227</p>	<p><b>SCANNER</b></p> <p>BEIJING 4300U 600X1200 USB...\$75 BEIJING 5000U 1200X2400 USB...\$93 MUSTEK 1200US PLUS USB...\$62 CANON LIDE20 600X1200 48BIT...\$99 CANON LIDE30 1200X2400 48BIT...\$139</p>	
<p><b>NETWORKING</b></p> <p>10/100 NETWORK CARD...\$10 D-LINK 10/100 NETWORK CARD...\$16 3COM 3C905CXT...\$46 9 PORT HUB...\$32 USB NETWORK ADAPTER...\$17 USB 4PORT HUB...\$15 ANY NETWORK CABLE...CALL</p>		<p><b>SPEAKER</b></p> <p>AUTEC LANCING AVS21W200W...\$19/25 AUTEC LANCING AVS300W500W...\$39/57 CREATIVE INSPIRE 2.1 2500...\$99 CREATIVE INSPIRE 4.1 4400...\$75 CREATIVE INSPIRE 5.1 5200...\$129 OG 591...\$19 OG 1080...\$19 OG 2000 Subwoofer...\$39 OG 5000 4.1...\$55 OG 5000 5.1...\$85</p>	<p><b>SPECIAL</b></p> <p>USB FLASH MEMORY 44MB/128MB/256MB...\$8/75/139 USB EXTERNAL ENCLOSURE 2.5 B.25...\$9/65</p>			

For more model of ASUS, MSI, GIGABYTE, ECS, VIA, BIOSTAR motherboard, please check:  
[www.look4computer.com](http://www.look4computer.com)

# Digital Shots: Figuring out flash

The biggest problem to overcome with consumer level digital cameras is usually the on-board flash. Unless you're willing to drop over a grand on a prosumer model digital camera, or to sacrifice overall image resolution by buying a prosumer model from a few years ago, digital cameras in the consumer realm don't give you many options for using flash.

By ANDREW MOORE-CRISPIN

Most digital cameras with on-board flash give menu options for flash firing mode, but given the location of the flash — usually, directly above the lens or off-set to the left or right above the lens — there is little flexibility, even with the flash modes cameras offer.

That said, the flash modes contained within the menus can help you to take better pictures without buying extra equipment or upgrading your digital camera.

## Auto

This mode is best for snapshots and pictures where the subject matter is more important than the composition; for example, quick photos of family and friends taken to document time spent together rather than for visual impact. These are the kinds of photos we've all seen in countless family photo albums.

Auto flash mode takes most of the guesswork out of taking a picture and, as the name implies, will automatically make the selection of the best possible flash mode for a given situation.

However, it pays to be familiar with the other flash modes, as Auto mode decides how to fire based on overall light, the key subject's distance from the lens and shutter speed and aperture. The key subject in most digital cameras is defined as the object in the centre of the frame, which, as we have discussed in conversations about the rule of thirds (dividing the frame into thirds vertically and horizontally and placing subjects where these lines intersect as opposed to centering them in the frame), doesn't lend itself to very interesting images.



Auto flash usually works well to give a balanced overall image, but doesn't have the capability for judgment that the person behind the lens has.

## Fill flash

Fill flash is used in harsh lighting conditions where the light source, most often the sun, is casting harsh shadows

**Markham**  
7170 Warden Ave. #19  
Tel: (905) 475-0817  
Fax: (905) 475-1476  
e-mail: markham@com.albion.com

**Etoibicoke**  
248 Browns Line  
Tel: (416) 253-8789  
Fax: (416) 253-0981  
e-mail: eloabco@com.albion.com

# ABC

**Scarborough**  
4400 Sheppard Ave. E #13  
Tel: (416) 335-8672  
Fax: (416) 335-7452  
e-mail: scarabco@bellnet.ca

**New Location**  
Office Hours:  
Mon to Fri: 10-6:30  
Sat: 10-5  
SUN CLOSED

**CyberDeluxe P4 System**

System Includes:

- Intel® Pentium® 4 Processor 478 pins, 1.8 GHz
- Asus P4PE, Intel® 845PE Chipset ATX Motherboard
- Ultra-fast USB 2.0 Support
- Intel® Pentium® 4 Processor 478 pins, 812K Cache
- 256MB DDR Ram 184pins, 1.44MB Floppy Drive
- Maxtor 60GB 7200rpm IDE Hard Drive
- ATI Radeon 7500 64MB DDR (VGA + DVI + TV out) AGP Video Card or GeForce 4 MX440 64MB DDR Video Card
- On Board 10/100BT Ethernet Adapter
- LG 48X CD-RW Drive
- LG 16X DVD Rom Drive
- Creative Sound Blaster Live 5.1 Sound Card
- Altec Lansing AVS-500W Subwoofer Speakers System
- ATX Tower Case w/300W P4 Power Supply
- (Equipped with 5 pins Aux & 4 pins +12v Power Connector)
- Compaq Internet Keyboard
- Logitech Wheel Mouse Optical

Upgrade to: Microsoft MultiMedia Keyboard & Wheel Mouse Optical...\$15

**CyberPro P4 System**

System Includes:

- Intel® Pentium® 4 Processor 478 pins, 1.7 GHz
- Asus P4S 533 - VML, ATX Motherboard
- 256MB DDR Ram 184pins
- Maxtor 20GB 7200rpm Hard Drive
- GeForce4 MX 64MB AGP Video Card
- 1.44MB Floppy Drive
- LG 48x CD-RW Drive
- 10/100BT Ethernet Adapter
- On Board AC97 Sound Audio
- Subwoofer Speakers System or Altec Lansing ACS21W Speaker
- ATX Tower Case w/300W P4 Power Supply
- (Equipped with 5 pins Aux & 4 pins +12v Power Connector)
- Compaq Internet Keyboard
- Logitech Wheel Mouse Optical

Upgrade to: 60GB 7200rpm Hard Drive...\$40  
Microsoft MultiMedia Keyboard & Wheel Mouse Optical...\$15

**Red Hot Deal II**

System Includes:

- Intel® Retail Box CPU, w/Ball Bearing Cooling Fan
- ECS P4 ATX Motherboard
- 128MB PC133 SDRAM, 168pins, 133MHz
- 20GB 7200rpm ATA133 Hard Drive
- 1.44MB Floppy Drive
- on board 64MB Share Video
- 17" SVGA 1280x1024 Monitor
- Integrated Ethernet Adapter
- 52X CD-Rom Drive
- On Board 3D Sound Audio
- 120W Amplified Speakers
- ATX Tower Case w/300W P4 Power Supply
- A-Open PS/2 Keyboard
- A-Open Wheel Mouse & Mouse Pad

Celeron 1.7GHz \$585  
Celeron 2 GHz \$635

**AMD Athlon K-7 System**

System Includes:

- Asus A7S333, SIS 745 Chipset, ATX Motherboard
- CPU Heat Sink with Ball Bearing Cooling Fan
- 256MB DDR Ram 184pins
- Maxtor 20GB 7200rpm Hard Drive
- Panasonic 1.44M Floppy Drive
- GeForce4 MX440 64M 4X AGP Video Card or ATI Radeon 7500 64MB w/TV out Video Card
- 10/100BT Ethernet Card
- Asus 52X IDE CD-ROM Drive
- On Board C-Media 6 Channel Audio Controller
- Altec Lansing ACS21W Speakers
- ATX Tower Case w/300W P4 Power Supply
- (Equipped with 6 pins Aux & 4 pins +12v Power Connector)
- Compaq Internet Keyboard
- Logitech Wheel Mouse Optical

Upgrade to: 60GB 7200rpm Hard Drive...\$40

XP 1800+ \$599    XP 2000+ \$619    XP 2200+ \$739

**AMD-BASIC-SYSTEM**

System Includes:

- Asus A7S 333, SIS 745 Chipset ATX Motherboard
- AMD Retail Box CPU, with Ball Bearing Cooling Fan
- 128MB DDR Ram
- 20GB 7200rpm ATA133 Hard Drive
- 1.44M Floppy Drive
- GeForce II MX400 64M Video Card
- 17" SVGA 1280x1024 Monitor
- 52X IDE CD-ROM Drive
- On Board C-Media 6 Channel Audio Controller
- 120W Amplified Speakers
- ATX Tower Case w/300W P4 Power Supply
- (Equipped with 6 pins Aux & 4 pins +12v Power Connector)
- A-Open PS/2 104 Keys Keyboard
- A-Open Wheel Mouse & Mouse Pad

Duron 1200MHz \$625    P-3 XP 1800+ \$685    P-3 XP 2000+ \$705

\* PRICES SUBJECT TO CHANGE WITHOUT NOTICE\* ALL PRICES ARE ALREADY 4% DISCOUNTED FOR CASH, MONEY ORDER & CERT. CHEQUE\* ABC IS NOT RESPONSIBLE FOR TYPOGRAPHICAL ERROR\* TRADEMARKS & LOGOS ARE PROPERTIES OF THEIR RESPECTIVE OWNERS\*

Monitor Special: (With System Purchase Only)		MOTHERBOARDS		MOTHERBOARDS		VIDEO CARDS	
17" LG 700S 27 1280	\$ 175	Asus:		Asus:		ATI All-in-Wonder Radeon 8500 128MB	\$409
17" LG E700B 25 1280	\$ 203	P4PE-GBL-R (Intel 845PE Chipset)	\$ 219	A7V8X (VIA KT400 Chipset)	\$ 169	ATI Radeon 7000VE SDR 64MB DH	\$ 55
19" LG E900B 25 1600	\$ 325	P4PE (Intel 845PE Chipset)	\$ 189	A7V8X-1394 (VIA KT400 Chipset)	\$ 189	ATI Radeon 7500 DDR 64MB TV	\$ 89
15" LG 1511S LCD Monitor	\$ 429	P4B533 (Intel 845E Chipset)	\$ 175	A7N8X-1394 (nForce2 Chipset)	\$ 185	ATI Radeon 8500LE DDR 128MB S/H	\$149
15" LG 566LM Multimedia LCD Monitor	\$ 429	P4B533VML (Intel 845G Chipset)	\$ 149			ATI Radeon 8500 DDR 128MB Retail	\$249
17" LG 786LS LCD Monitor	\$ 659	P4S533VML (SIS 661 Chipset)	\$ 125	Intel:		ATI Radeon 9000 DDR 128MB TV	\$135
18" LG 1800P LCD Monitor	\$1019	P4S533-E (SIS 645DX Chipset)	\$ 155	P4D850EMV2L (Intel 850E Chipset)	\$ 245	ATI Radeon 9000 Pro 128MB TV D/H	\$159
17" NEC AS70 27 1280	\$ 205	P4S8X (SIS 648 Chipset)	\$ 195	P4D845GEBV2 (Intel 845GE Chipset)	\$ 179	ATI Radeon 9500 Pro 128MB DDR TV	\$269
17" NEC AS75F 25 1280 *PF	\$ 229	P4TE (Intel 850 Chipset)	\$ 219	P4D845GERG2L (Intel 845GE Chipset)	\$ 195	ATI Radeon 9700 Pro 128MB D/H	\$409
19" NEC AS95F 25 1600 *PF	\$ 355	P4T533 (Intel 850E Chipset)	\$ 259	P4D845PEBT2 (Intel 845PE Chipset)	\$ 205	Asus V8170 MX420 64MB DDR TV	\$105
21" NEC AS120 22H 1600	\$ 717	P4T533-C (Intel 850E Chipset)	\$ 245	P4D845PESVL (Intel 845PE Chipset)	\$ 175	Asus V8170 MX440 64MB DDR TV	\$125
17" NEC FE7715B 25 1280 *PF	\$ 259	P4T533-CL (Intel 850E Chipset)	\$ 249			Asus V9180 MX440 64MB DDR TV	\$165
19" NEC FE9915B 25 1600 *PF	\$ 399	A7S333 (SIS 745 Chipset)	\$ 109	VIDEO CARDS		Asus V9280 T4200 128MB 8x	\$249
15" NEC 1550V LCD Monitor	\$ 469	A7V333-GD (VIA KT333 Chipset)	\$ 175				
17" Samsung 753DF .21h 1280	\$ 206	A7V333-Raid (VIA KT333 Chipset)	\$ 175				
19" Samsung 955DF .20h 1600	\$ 309	A7V333 (VIA KT333 Chipset)	\$ 145				
** Limited Quantities ** Dealer Welcome **							

**Special Deal!**  
with System Purchase

**HOT! HOT! HOT!**  
19" CTX 25 1600  
PURE FLAT MONITOR  
\$ 259

- LG 48x CD-RW Drive \$ 79.50
- Epson Stylus C42UX InkJet Printer \$ 64.65
- Mustek 48bit 600x1200 USB Scanner \$ 68.43
- 60GB 7200rpm Hard Drive \$ 136.00
- 40x 80min/700MB CD-R Disk (50 Spindle) \$ 20.00
- 10x 80min/700MB CD-RW Disk \$ 1.90
- Microsoft Internet KB & Wheel Mouse Optical Combo \$ 39.50
- Samsung ML-1430 Laser Printer \$ 279.55

\* Price ONLY effective between Jan.29 - Feb.11, 2003 \*

on the subject, like a face. Fill flash will cast light in dark areas, like under the nose, eyes and mouth, and is intended to give a more even light to the image.

The mistake many amateur photographers make is to assume that flash is used to brighten up a scene that lacks sufficient light. While this is a key function of flash, it's not the only application. Try using fill flash to give pictures a more even light quality and soften up shadows in harsh lighting conditions.

### Slow Synchro

Slow Synchro flash mode is much as it sounds; the shutter will stay open longer (usually around 1/4 second) to gather more ambient light from the background, while the flash fires to illuminate objects in the foreground. Think of taking a picture on a balcony at night, overlooking a city skyline. The flash will do nothing to illuminate the background elements, so a fast shutter speed would lose all background detail. Instead, the flash acts as the shutter for the foreground, while the background gets a bit longer to expose.

### Red-eye reduction

Red-eye occurs when the light from a flash bounces off the blood vessels in the retina and gives your subject that demonic look that is sometimes hard to

avoid. Red-eye reduction flash will fire a few short bursts before actually taking the picture, to dilate the subject's pupil and minimize the light bouncing back to the camera. Try to avoid this setting, as it is only a band-aid solution and usually creates more confusion with people moving out of the frame before the picture is taken. Instead (or as well as), avoid having the subject look directly at the lens (and hence the flash), or position a slave flash off to either side of the camera, which brings me to my next point.

**Since we don't have to pay for our mistakes in digital photography, keep experimenting until you get a result you're happy with**

### Slave flash

Some more advanced consumer level digital cameras have either a hot shoe mount or flash synchronization port that can be used in conjunction with or instead of the camera-mounted flash. Having an adjustable flash can help a lot in getting a balanced and even picture that on-camera flash just doesn't have the flexibility to provide. However, if your digital camera is without the hot

shoe or flash synchronization ports, all is not lost.

Off-camera flashes can be had in many dedicated photography stores for about \$150 for an intermediate level flash that can grow with you and provide the flash flexibility that consumer digital cameras often sorely miss. These adjustable flashes give users much more control on how the light from the flash is to be delivered, but also require a bit more attention in order to get a good end product. We won't go into the details of setting up a slave flash in this

column, as this information is usually well explained in the flash instruction manual, online and in many beginner- and intermediate-level photography books.

Assuming your digital camera doesn't have a hot shoe or flash synchro port, you will also need a photo slave. The smaller of these light sensitive diodes are usually no bigger than a cufflink — often called peanut slaves — and fit on

the end of a flash synchronization cord. The slave senses when your on-camera flash fires, and will trigger the second, off camera flash to fire.

Slave flash presents a special case in digital, as the primary flash will attempt to illuminate the whole scene, which means photographers must pay more attention to getting the setup correct; using a subdued slave flash setting will give a balanced light quality in most situations. Another option is to use light masking tape (electrical tape works well) to position a peanut slave right in front of the on-camera flash. This will avoid many of the problems with overexposure and is essentially a hot shoe or synchronization port alternative. After setting up a slave flash, it's just a matter of configuring it correctly for the situation.

As with all photography, much of the learning process is trial and error; using a slave to fire a second flash can potentially result in an over-lit, washed out image, similar to the lighting effects used in the music videos of ageing divas to hide wrinkles and other "imperfections" of the skin.

Since we don't have to pay for our mistakes in digital photography, keep experimenting until you get a result you're happy with; it's all part of the fun and part of the reason we went digital in the first place. ♦

## PC4 CANADA

255 College Str.

Tel: 416-593-6688  
Fax: 416-593-9880  
E-mail: sales@pc4canada.com

College E  
Nr. 255  
MON.-SAT.  
11:00-19:00

**SHOP ON LINE: WWW.PC4CANADA.COM**

**Pc4Home \$768**

AMD XP2100+CPU  
ECS/Aopen MK73LE-N Mainboard  
256MB SD RAM Pc133, 4 USB  
64MB 3D VIDEO, 16BIT 3D Sound  
10/100 Ethernet lan, 1.44 FDD Sony  
40GB 7200rpm HardDisk Maxtor  
16X LG DVD ROM  
ATX P4 300W CASE(2USB front)  
Ps2 Keyboard, HP USB wheel Mouse  
600W 2.1 Subwoofer Speaker  
**Monitor: 17" LG700S**  
**Or 17" Samsung750S**  
**3Months Free Internet**

**PC4ALL WinterSpecial**

Intel P4 2.53GHz B 533Mhz  
**INTEL P4 2.53G \$998**

512K533FSBRetail BOX CPU  
**Asus P4S533VML FSB533 6USB2.0 BOARD**  
**256MB DDR RAM Pc266 2100**  
64MB 128BIT 3D Game Video CARD on.  
3DAudio build In, 10/100 Ethernet card on.  
40GB 7200 rpm Hard Disk, 1.44 FloppyDisk  
**52X LG Powerfull CD-ROM**  
ATX 300W p/s P4 Case(2USB front)  
Ps2 Multimedia keyboard, HP USB Wheel Mouse  
600W Stereo 2.1 Subwoofer Speaker  
**Monitor: 17" Perfect Flat**  
**Samsung 755DF .20**  
**1600x1200dpi**

**Pc4Student \$499**

Intel P4 cel.2.0G  
ECS P4S5MG DDR board  
(533FSB, 4USB2.0)  
128MB SD RAM Pc133  
**30GB HDD Maxtor**  
**48x16x48 CDRW MSI**  
16BIT Sound, 1.44 FDD  
64MB Video, 10/100 Lan  
ATX P4 300W Case  
Wheel Mouse, Keyboard  
Powerfull Speaker 220W  
\*Intel P4 1.6 \$579  
\*Intel P4 2.0 \$628

**Pc4Office \$828**

Intel P4-2.0G 512k CPU  
ASUS P4S333 DDR400 Board  
**256MB DDR RAM Pc266**  
**Geforce4 Mx440 64MB 3DVideo**  
3D Sound Build In  
10/100 Lan Card PCI  
**40GB 7200RPM Hard Disk**  
**48x16x48 CDRW, 1.44FDD**  
ATX 300W p/s Midtower Case  
Valued PS2 Keyboard  
Ps2 Wheel Mouse  
600W Stereo 2.1 Subwoofer Speaker  
\*Intel P4-1.8G \$788  
\*Intel P4-2.4G \$878

**Pc4Gamer \$878**

AMD XP2100+CPU  
Asus A7N8X DDR400 Board  
**256MB DDR Pc266 2100 RAM**  
**40GB ATA133 7200RPM HDD**  
**48X16X48 CDRW**  
1.44 FDD, 3D Sound Build in,  
ATI Radeon9000 64M DDR/TVO  
10/100 LAN Card, 4 USB  
ATX P4 300W p/s Case  
LiteOn internet Keyboard (black)  
Logitech Optical Wheel Mouse  
600W Stereo 2.1 Subwoofer Speaker  
\*AMD XP2000+ \$858  
\*AMD Xp2400+ \$1018

**ECS LAPTOPS CORNER**

**DESKNOTE**

**D900 \$1059**

1GPro CPU/ 14.1" TFT  
10G/256MB/LAN/4USB  
56K Modem/ 8X DVD

**TOSHIBA**

All systems sold cover 5 Years Labour and 1 year Parts Warranty. All Systems and Price is Subject to change without notice. Prices are 3% Cash Discounted. By VISA, 3% More, Thanks!

Intel p4-1.8G \$1428	Intel p4-1.8G \$1558
Intel P4-2.0G \$1468	Intel P4-2.0G \$1588
Intel P4-2.4G \$1528	Intel P4-2.4G \$1658
256MB DDR / 30GB / DVD	256MB DDR / 30GB / LAN
56K Modem / LAN	Modem / DVD & CDRW
4USB 2.0 / 1394 / 15" TFT	4USB 2.0 / 1394 / 15" TFT

**Satellite Intel CEL-800 / 128MB / 15G / 13.3" TFT / FDD / CD ROM / 56K / LAN / WIN ME \$1228**

**Satellite 4600 Intel PIII-800 / 128MB / 20G / 14.1" TFT / DVD / FDD / 56K / LAN / WIN 98 \$1598**

**Satellite 1400 Intel Cel-1.8/256MB/ 20GB/14" / DVD/CDRW/FDD/56K/LAN/WIN XP \$1688**

**Fujitsu P4-1.7/256MB/30G/14" / DVD/CDRW/FDD/56K/LAN/WIN XP \$2058**

**Free Software:**

Pcworks Suite 2002 for the first 50 customers of system Pc4all purchased

\*StarOffice \*Print Artist 12 \*Quicken 2002 \*Photo Express

\*McAfee VirusScan Online \*MusicMatch Jukebox 2.0

\*Encyclopedia Britannica 2002 \*Sturfti Expander \*Rand McNally

**UNTIL SUPPLIES LAST SALE!!! UNTIL SUPPLIES LAST SALE!!!**

**COUPON COUPON COUPON COUPON COUPON COUPON COUPON**





<b>50 PACK CD-R</b>  <b>40X 80MIN 700MB</b> <b>\$13.99</b> REGULAR PRICE \$14.99 <small>QUANTITIES LIMITED WHILE SUPPLIES LAST.</small>	<b>100 PACK CD-R</b>  <b>40X 80MIN 700MB</b> <b>\$24.99</b> REGULAR PRICE \$29.99 <small>QUANTITIES LIMITED WHILE SUPPLIES LAST.</small>	<b>100 PACK CD-R + 2 CD CASES</b>  <b>\$29.99</b> REGULAR PRICE \$34.99 <small>QUANTITIES LIMITED WHILE SUPPLIES LAST.</small>	<b>24 CD WALLET</b>  <b>GREAT QUALITY</b> <b>\$2.99</b> REGULAR PRICE \$4.99 <small>QUANTITIES LIMITED WHILE SUPPLIES LAST.</small>	<b>GEL MOUSEPAD</b>  <b>\$2.99</b> REGULAR PRICE \$4.99 <small>QUANTITIES LIMITED WHILE SUPPLIES LAST.</small>	<b>15" FLAT PANEL</b>  <b>BRAND NEW!!</b> <b>WITH SPEAKERS</b> <b>\$375.00</b> REGULAR PRICE \$399.99 <small>QUANTITIES LIMITED WHILE SUPPLIES LAST.</small>	<b>4 PORT 10/100 CABLE/DSL ROUTER</b>  <b>BRAND NEW!!</b> <b>\$59.99</b> REGULAR PRICE \$79.99 <small>QUANTITIES LIMITED WHILE SUPPLIES LAST.</small>
--	---	--	--	--	--	--


<b>NEW 3 BUTTON PS/2 MOUSE</b>  <b>BRAND NEW!!</b> <b>\$1.99</b> REGULAR PRICE \$4.99 <small>QUANTITIES LIMITED WHILE SUPPLIES LAST.</small>	<b>CELL PHONE EAR PIECE AND MIC</b>  <b>BRAND NEW!!</b> <b>\$2.99</b> REGULAR PRICE \$4.99 <small>QUANTITIES LIMITED WHILE SUPPLIES LAST.</small>	<b>MICROPHONE OMNI-DIRECTIONAL</b>  <b>BRAND NEW!!</b> <b>\$1.99</b> REGULAR PRICE \$4.99 <small>QUANTITIES LIMITED WHILE SUPPLIES LAST.</small>	<b>FM AUTO SCAN HEADSET RADIO</b>  <b>BRAND NEW!!</b> <b>\$4.99</b> REGULAR PRICE \$9.99 <small>QUANTITIES LIMITED WHILE SUPPLIES LAST.</small>	<b>3X3" CASE FAN</b>  <b>BRAND NEW!!</b> <b>\$2.99</b> REGULAR PRICE \$4.99 <small>QUANTITIES LIMITED WHILE SUPPLIES LAST.</small>	<b>SLOT EXHAUST FAN</b>  <b>BRAND NEW!!</b> <b>\$9.99</b> REGULAR PRICE \$14.99 <small>QUANTITIES LIMITED WHILE SUPPLIES LAST.</small>	<b>TOSHIBA Portege 7200</b>  <b>Pentium III 600 128MB Ram 12GB HD DVD/SOUND 13" TFT</b> <b>\$999.99</b> REGULAR PRICE \$1099.99 <small>QUANTITIES LIMITED WHILE SUPPLIES LAST.</small>
---	--	---	---	---	---	---

<b>IBM WEBCAM USB</b>  <b>Xirlink PC Camera</b> <b>BRAND NEW!!</b> <b>\$29.99</b>	<b>Palm Ilx</b>  <b>8MB 16MHz OS 3.5 Cradle</b> <b>\$99.99</b> <b>MINIATURE CAR REMOTE CONTROL</b>  <b>BRAND NEW</b> <b>\$19.99</b>	<b>IBM LAPTOP 10/100 NETWORK CARD</b>  <b>32BIT CARDBUS</b> <b>\$24.99</b> <b>HAND HELD MICROPHONE</b>  <b>BRAND NEW</b> <b>\$12.99</b>	<b>Xircom 56k &amp; 10/100</b>  <b>\$49.99</b> <b>128MB Laptop MEMORY</b>  <b>BRAND NEW!!</b> <b>\$49.99</b>	<b>PCMCI 56K MODEM CARD</b>  <b>COMPAQ</b> <b>\$29.99</b> <b>Automobile Laptop Adapter</b>  <b>DC 15-24V</b> <b>BRAND NEW!!</b> <b>\$49.99</b>	<b>WIRELESS NETWORK 802.11B</b>  <b>32BIT CARDBUS</b> <b>\$59.99</b> <b>2.5" USB 2.0 ENCLOSURE</b>  <b>BRAND NEW!!</b> <b>\$59.99</b>	<b>4 Port USB 2.0 PCMCIA CARD</b>  <b>RAND NEW!!</b> <b>\$59.99</b> <b>3.5" USB 2.0 ENCLOSURE</b>  <b>BRAND NEW!!</b> <b>\$79.99</b>	<b>2 Port Firewire PCMCIA CARD</b>  <b>RAND NEW!!</b> <b>\$59.99</b> <b>P4 ATX CASE WITH POWER SUPPLY</b>  <b>BRAND NEW!!</b> <b>\$49.99</b>
---	---	---	--	---	---	--	--

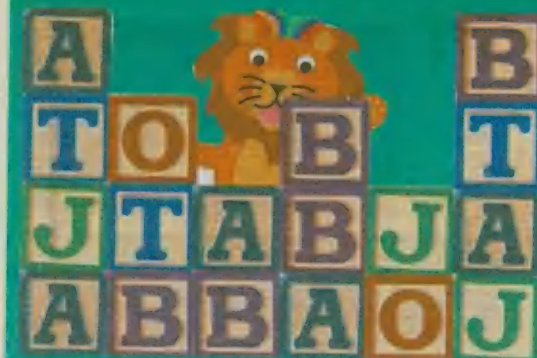
<b>5 Port USB 2.0 PCI CARD</b>  <b>BRAND NEW!!</b> <b>\$29.99</b>	<b>4 Port Firewire PCI CARD &amp; CABLE</b>  <b>BRAND NEW!!</b> <b>\$39.99</b>	<b>ROUTER CARD 4PORT PCI</b>  <b>BRAND NEW!!</b> <b>\$49.99</b>	<b>WEB CAMERA Parallel Digital Web Cam</b>  <b>640X480</b> <b>BRAND NEW!!</b> <b>\$24.99</b>	<b>Maxtor 60 GB</b>  <b>\$139.99</b>	<b>Maxtor 80 GB</b>  <b>\$149.99</b>	<b>Quantum 5.1 GB</b>  <b>\$59.99</b>	<b>HEWLETT PACKARD USB Keyboard</b>  <b>BRAND NEW!!</b> <b>\$9.99</b>	<b>4 Port USB Hub</b>  <b>BRAND NEW!!</b> <b>\$9.99</b>
<b>D-Link 2MB MP3 PLAYER</b>  <b>BRAND NEW</b> <b>\$49.99</b>	<b>ALTEC LANSING PC/TV/GAME AUDIO SUB WOOFER</b>  <b>\$39.99</b>	<b>CASIO PC TAG WRITER LABEL PRINTER</b>  <b>\$39.99</b>	<b>6 in 1 USB Reader/Writer</b>  <b>Compact Flash Smart Media Memory Stick Secure Digital Ultra Drive</b> <b>\$59.99</b>	<b>SOYO SOCKET 370 MOTHERBOARD</b>  <b>BRAND NEW!!</b> <b>\$59.99</b>	<b>INTEL 1000MHZ &amp; BOARD COMBO</b>  <b>1000MHZ</b> <b>BRAND NEW!!</b> <b>\$159.99</b>	<b>INTEL 850MHZ &amp; BOARD COMBO</b>  <b>850MHZ</b> <b>BRAND NEW!!</b> <b>\$119.99</b>	<b>ATHLON 950MHZ MB &amp; CPU COMBO</b>  <b>950MHZ</b> <b>BRAND NEW!!</b> <b>\$139.99</b>	<b>ATHLON 700MHZ MB &amp; CPU COMBO</b>  <b>700MHZ</b> <b>BRAND NEW!!</b> <b>\$99.99</b>

<b>IBM ThinkPad 380XD</b>  <b>Pentium 233 64MB Ram 4.3GB HD CD/SOUND 12" TFT</b> <b>\$325.00</b>	<b>IBM ThinkPad 390X</b>  <b>ntium III 450 128MB Ram 12GB HD CD/SOUND 14" TFT</b> <b>\$949.99</b>	<b>IBM ThinkPad A21m</b>  <b>ntium III 800 128MB Ram 20GB HD DVD/SOUND 14" TFT</b> <b>\$1499.99</b>	<b>TOSHIBA Portege 7200</b>  <b>Pentium III 600 128MB Ram 12GB HD DVD/SOUND 13" TFT</b> <b>\$1099.99</b>	<b>LAPTOP P4 2.0GHZ 256MB 12GB DVD</b>  <b>\$1599.99</b>	<b>LAPTOP P4 2.0GHZ 256MB 12GB CDRW DVD</b>  <b>\$1799.99</b>
--	---	---	--	---	--

<b>Tower CEL 800MHZ 128MB 6.4GB CD</b>  <b>\$299.99</b>	<b>Tower AMD 950MHZ 128MB 8.4GB CD</b>  <b>\$349.99</b>	<b>Tower AMD XP 1800+ 256MB 30GB CDRW</b>  <b>\$499.99</b>	<b>Tower CEL 1000MHZ 128MB 9.8GB CD</b>  <b>\$375.00</b>	<b>Tower P4 2.0GHZ 256MB 30GB CDRW</b>  <b>\$649.99</b>	<b>Tower P4 2.0GHZ 256MB 60GB CDRW</b>  <b>\$699.99</b>
--	--	---	---	--	--

<b>Visit Us @</b> <b>www.Cwo.ca</b> 	<b>Store Hours</b> <b>Monday - Friday 10:30 - 7:00PM</b> <b>Saturday 10:00 - 5:00PM</b> <b>Sunday 12:00 - 5:00PM</b> <small>(Scarborough Only)</small>	<b>NORTH YORK</b> <b>1140 SHEPPARD AVE. UNIT 9 (W. OF DUFFERIN)</b> <b>416-638-1662</b>	<b>SCARBOROUGH</b> <b>1911 KENNEDY RD. UNIT 104 (N. OF ELLESMERE)</b> <b>416-335-9964</b>
---	--	---	---

PRICES AND AVAILABILITY ARE SUBJECT TO CHANGE WITHOUT NOTICE. WE ARE NOT RESPONSIBLE FOR ANY TYPOGRAPHICAL ERRORS.



## Baby Einstein comes to the PC

By MARA GULENS

Although I have three kids under the age of five, *Baby Newton Fun With Shapes* is my first introduction to the massively successful Baby Einstein Company product line.

The line covers everything you can think of to stimulate and entertain children four years old and under, including videos, books, audio CDs, discovery cards, puppets and now, a PC "game." (That's game in quotes, since it's intended for kids one and up).

As the company's Web site explains, Baby Einstein products expose kids to "music, art, language, science and nature in playful, enriching ways." My sister's kids have the Baby Mozart video. Funny, given all the success, that we've never viewed it during the numerous visits to their house.

But back to the game. From what I gather, it's very similar to the other products in that it also takes simple shapes and concepts and maps them to music to provide the youngest of kids with a rich learning experience. Since I'm not familiar with the

line (which, I gather from testimonials, leaves kids spellbound), I'll talk about the interactive CD-ROM in terms of itself.

The game begins with an install process that lets you choose between English and French. Curiously, that only applies to the install process itself, because the game is in English only.

Once in, the voice comes on and says "Baby Einstein." (I almost had a conniption when my 20 month-old daughter repeated the word "Einstein," clear as a bell). Baby Newton, the lion, I presume, then guides kids through various colourful landscapes, including the seashore and downtown, as

various objects (pizza and cheese, for example) pop up to introduce kids to circles, squares, triangles and rectangles.

If the kids just sit by the computer, the images sort of move around, but the story doesn't progress. If they tap the

space bar, the game goes on to the next scene. And this, in effect, is what this interactive CD-ROM is all about. A TV doesn't allow kids to do anything but watch and listen. The PC version lets kids watch, listen and click.

When our first child hit the age of one, we were very keen to let her have a go at the computer, and a shareware program similar to *Baby Newton Fun With Shapes* provided colours and shapes that exploded on the screen. But the music was cheap computer gibberish, and it wasn't much more than an opportunity to bang away at the keyboard.

*Baby Newton Fun With Shapes*, on the other hand, has unobtrusive Vivaldi in the background. Vivaldi, like Mozart, most likely has the same magical, mathematical properties that stimulate learning and development. But most parents already know that, and that's why we don't put kids to bed with heavy metal music, continue buying all those cuddly rainbow-coloured baby products and

read books to our children.

*Baby Newton Fun With Shapes* takes the tried and true elements from the other products – the books, the videos and the CDs – as well as the convincing arguments that New Age parents go for, and puts them together in an interactive CD-ROM.

You can take this medium or leave it. But once your child has had a go at *Baby Newton*, you better bet it'll be hard to stop them from toddling towards the computer chanting "Einstein ..."

## more INFO

*Baby Newton Fun With Shapes*  
\$29.99

Disney Interactive

[www.babyeinstein.com](http://www.babyeinstein.com); [www.disneyinteractive.com](http://www.disneyinteractive.com)

For kids 12 months and up

### Requirements:

Pentium 166 MHz or faster, Windows 95/98/ME, 8x CD-ROM drive, 32 MB RAM, 60 MB free hard disk space, 16-bit DirectX-compatible sound card, 16-bit colour, DirectX-compatible 4 MB video card

## Kidproof your computer files

By MARA GULENS

Like anything to do with computers and kids, it all starts with the two P's: Proper PC Usage and Parental Supervision. Listen to the sage advice of Myles Kesten, president of the CD-ROM Store.

One of the new features of Windows XP (which comes with new PCs) is that it "allows individual users to be set up with passwords and protects all the settings of other users," says Kesten. This means that Little Joe will in a sense be working on his own version of the computer and won't be able to mess with what dad has set up.

For people paranoid of their children deleting files, Kesten recommends the following:

- **Roxio GoBack:** This utility mirrors hard disk activity and allows users to go back in time if a major deletion, corruption or virus has occurred.
- **Norton Ghost:** This utility mirrors and backs up the hard disk on a separate back up media, such as a second hard disk, a Zip drive or a CD-writer.

Here's the advice Kesten gives people who have recently purchased a new system:

- Immediately make a Windows start-up diskette in case of system failures;
- Copy all system driver CDs, operating

system CDs and major office suites onto CDs and put the copies in a bank safety deposit box;

- Register all licences and keep hard copies in the safety deposit box;
- If you're using Internet dial-up, purchase anti-virus software. If you're using high-speed Internet, get anti-virus software and a firewall;
- Read the Read Me files that accompany new software. They often come with useful last minute information.

If you're encountering problems with games you've purchased, check out Kesten's tips at [www.cdromstore.com](http://www.cdromstore.com) (go to Software and Hardware Tips/Reviews). ♦

Est. since 2001 Serving Canadians Nationwide with **No Handling Fees** and **Low Shipping!**



HIGH PERFORMANCE  
Panasonic

**PANAFLO**

Case Fan 80mm  
Each Only \$14.00

**COLD CATHODE  
LIGHTING KITS** (5 Colours)

Each Only \$44.00



**FAN GRILLS**

Laser Cut 80mm -120mm  
Each \$22-24

Visit us online!

We cater to gamers,  
over-clockers and  
pc enthusiasts!

**TWEAKBOX.com**

change the system

We sell Rounded Cables - Aluminum Cases - Cooling - Lighting - PSU's - Split Loom - Windows and much more!

# Good times at Mac love-in

## Macworld post-show report

By DAVID TANAKA

It was, according to a fellow Canadian journalist we bumped into – and a seasoned writer on things Apple – a pretty good Macworld. We'd concur. In a post-show news release, organizer IDG World Expo stated that 90,473 people attended and more than 330 companies participated in the Jan. 6-10 event, now in its 19th year.

During his keynote address to a full house at the Moscone Center in San Francisco, Apple CEO Steve Jobs gave his usual Apple versus that other platform state of the union address, but then launched into a series of new product announcements covering both hardware and software. With the announcement of two new PowerBooks, he claimed that Apple has the biggest and smallest full-featured notebooks on the planet. In a separate briefing, *TC!* met with Apple product managers who let us play touchie-feelie with a couple of units. Our impression of the 17-inch PowerBook: Wow! We initially feared that the 17-inch widescreen display would make the unit lid-heavy, but it seemed to be well balanced, and at about 3 kg (just under 7 lb.), very light given its dimensions.

Among the new software Jobs announced during his keynote were a repackaging of *iPhoto*, *iTunes*, *iMovie* and *iDVD* into a product called *iLife*, which will ship with all new Macs. But this is not mere cosmetic repackaging, said Jobs. The applications have all been rewritten to be more interoperable.

A couple of brand-new products surfaced: *Safari*, which is an OS X-only Web browser, and *Keynote*, a presentation package that Jobs said he'd used for all his keynote presentations in 2002. We've downloaded the beta version of *Safari*, and initial impressions are that it is speedy, although we can't confirm that it's three times as fast as *Internet Explorer*, which Apple claims it is. But the simplified interface is very attractive. Notable features in *Safari* are a built-in Google, a SnapBack button that takes you back to the original entry point of a search (also works with the URL navigation bar), and a customizable favourites bar that you can load up with your favourite Web site addresses.

Pocketbook-challenged video producers will be happy to know that Apple also introduced *Final Cut Express*. This is *Final Cut Pro* with some of the advanced professional features removed, and with a price tag of \$450.

### On the floor

The 300-plus exhibitors that took part in the trade show portion covered the full gamut of personal computing. As one might expect, there were a lot of products devoted to Internet and multimedia production, although on the flight back, we talked to one chap who works for a Markham company that has developed a CRM (customer relations management) application for OS X.

Winnipeg-based Mac developer, eZedia Inc. ([www.ezedia.com](http://www.ezedia.com)), announced a couple of new products at the show: eZeMotion for iMovie and eZediaQTI.

eZeMotion is a plug-in for iMovie, and allows users to animate elements such as text and graphics along a path and layer it over video. eZediaQTI is a QuickTime authoring environment that allows a developer to establish interaction points or object animation paths and then export the production to an interactive QuickTime movie format.

ThinkFree Corp., of Cupertino Calif. ([www.thinkfree.com](http://www.thinkfree.com)), was showing its MS Office-compatible ThinkFree Office suite, which can be downloaded for US\$49.95. The suite has Write, Calc and Show, which are compatible with Word, Excel and PowerPoint. The unusual feature of this product is that it is written in Java, so that it will run on OS X, OS 8.6 or above and Windows. We tried the software on an iBook and found it more sluggish than Word, but we could go back and forth on the same document with the two word processors with no problems.

When we asked a representative from MacSpeech Inc., of Bedford, New Hampshire ([www.macspeech.com](http://www.macspeech.com)), what distinguished its iListen voice dictation software from IBM ViaVoice, he laughed and said "iListen works." iListen allows dictation directly into most applications, plus command and control.

U.K. developer DrawWell Technologies

Macworld  
Conference & Expo



Ltd. ([www.drawwell.com](http://www.drawwell.com)) was showing an OS X desktop publishing and illustration package called WorksWell (US\$99).

Rain Design, of San Francisco ([www.igo4mac.com](http://www.igo4mac.com)), showed two workstations dedicated to the new iMac. These are very cool designs, looking a bit like plant stands, with chrome legs converging to a small pedestal just big enough to hold the circular iMac base. A separate platform holds the keyboard, mouse and speakers. ♦

**A.G.Computers.** 366 Bloor Street East, Toronto, ON, M4W 1H4  
416-967 7485, Fax 416-967 9564, E-mail [sales@agcomputers.com](mailto:sales@agcomputers.com).

North West Corner of Bloor and Sherbourne St. Visit Our web-Site for Up Dated Price  
**[www.agcomputers.com](http://www.agcomputers.com)**

Pentium 4 Motherboard Intel CPU  
256 MB Memory  
40GB Hard Disk Drive  
1.44 Floppy Drive  
48x10x40 CDR-W  
32Bit 3D Sound  
56K Fax Modem,  
10/100 LAN Card  
Speakers  
32 MB 4x AGP Video Up to 64  
Mouse/Pad, Win98 Keyboard,  
17" NI SVGA Monitor 27dpi  
300w P/S MID Tower Case, 1 Serial  
1 Parallel, 4 USB Port.

Pentium-4  
1.8Ghz  
\$799

AMD1400+GHz CPU  
AMD Motherboard  
256 MB SDRAM  
40GB Hard Drive  
48x10x40 CDR-W  
1.44 Floppy Drive  
AGP Share Video  
32Bit 3D Sound  
56K v.92 Fax/Voice/Dat  
Win 98 Keyboard  
Mouse, MID Tower Case  
1 Serial, Parallel, USB Port  
17" NI SVGA LG Monitor

XP1400  
\$649

Pentium 4 2.4Ghz with 15" LCD \$1499  
Intel 845E 533 ATX Motherboard  
Intel Pentium CPU, 256MB DDR Memory  
80GB Hard Disk ATA-100 7200rpm  
16xLG DVD-ROM, 48x10x40 CDR-W, 1.44 Drive  
64MB GeForce-4 AGP Video Adapter, T.V Out  
Creative Live Sound Adapter 5.1  
56K Fax Modem w/ Voice, Fax  
Internet Win 98 Keyboard, PS/2 Optical Mouse  
ATX 4Bay Tower Case, 2 Serial Port and  
1 parallel Port, 4USB 2.0 Port  
15" NI LCD Monitor  
IBM Sub-Woofer + Speakers

**World Smallest PC**  
with standard size  
Hardware, CPU, P4 2.0 CPU  
Memory, 40GB 7200rpm,  
256MB DDR, 10/100, DVD  
CDR-W, 3D Sound  
IEEE 1394 Port, USB 2.0  
Parallel, Serial and Micro Mini Case  
Two different Brand Name  
[www.msi.com.tw](http://www.msi.com.tw)  
[www.shuttleonline.com](http://www.shuttleonline.com)

### Note Book Special

Pentium 4 2.4 Ghz \$1599.00  
256MB DDR, 20GB Hard Drive, DVD+ CDR-W,  
56k Modem, 10/100 LAN, 15" TFT Screen  
IEEE 1394 Firewire port, 4 USB 2.0  
Pentium 4 1.7Ghz \$1399.00  
256MB DDR, 20GB Hard Drive  
DVD, 56k Modem, 10/100 Base LAN  
14" TFT Screen, IEEE 1394 Firewire port  
4 USB 2.0  
Intel Celeron 1.3Ghz \$1139.00  
128MB DDR, 10GB Hard Drive  
DVD, 56k Modem, 10/100 Base  
14" TFT Screen

### Brand New (Only \$599)

Toshiba AMD K6-2 350, CD-ROM, and  
Floppy, Battery, HDD, Notebook

Toshiba C1800Mhz \$1599  
Toshiba C1800 \$1449 (no CDR-W)

20GB Hard Drive, 256MB DDR  
DVD ROM, CDR-W, LAN, Modem  
15" LCD Screen, USB 2.0  
IEEE 1394 Digital Video In/Out  
1.44 Floppy, Battery Win XP

### Used Notebook

Dell P-3 500, 128MB, 12GB, 12", CD, FD \$845  
Dell P-3 650 256MB, 12GB, 14" CD, FD \$900  
Tosh P-2 333, 36MB, 4.0 GB, CD, FD \$499  
Pentium, 233MMX, 164MB, 5.0GB, \$349

Prices are already Cash discounted. Paying by Credit card 3% will be Charged extra.

We accept VISA, MasterCard

A.G.COMPUTERS IS NOT LIABLE FOR ERRORS OR OMISSIONS

22578614

### Notebook Accessories

PCMCIA USB 2.0 3port \$119  
4Port USB 2 HUB \$42  
3.5" HDD External Case \$119  
2.5" HDD External Case \$69  
16x10x40 External CDR-W \$159  
256MB USB Handy Drive \$149  
USB NIC 10/100 Adapter \$34  
PCMCIA Firewire Card \$139  
PCMCIA 56kV.90/100 \$49

### ROM Drive

LG 48x10x40 \$72  
LG 52x10x40 \$84  
LG 52x10x40 \$81  
DVD+CDR-W 32x \$139  
52x CDR/W Drive \$29  
**HARD DRIVE**  
40GB 7200rpm \$115  
60GB 7200rpm \$129  
80GB Maxtor 7200 \$149  
120 Maxtor 7200 \$224

Pine MP3+CD Player \$79  
Samsung MP3+CD Player \$99  
4inOne Digital Cam/MP3/Voice \$159

### DIGITAL CAMERA

SONY DSC P31 2.0Mega Pixels \$329  
SONY DSC P51 2.0Mega Pixels \$400  
Kodak DX 3700 2.1Mega Pixels \$369  
Kodak LS420 2.1Mega Pixels \$359  
HP Photosmart 120 1.0Mega Pixels \$159  
HP Photosmart 318 2.1Megapixels \$229

### LCD

15" LCD \$399  
15" LCD MM \$449  
15" LCD LG \$479  
17" LCD \$649  
17" LCD + T.V \$699  
17" LCD \$729  
17" Digital RB \$849  
17" Viewsonic \$349  
19" Viewsonic Call

# GET THE EDGE ON THE NEW YEAR!

SECURE SHOPPING ONLINE!

www.edgeworld.net

WEB HOSTING NOW AVAILABLE  
call the Oakville Store For Details

## COMPUTER EDGE

Where Service Is The Difference!

Mon-Fri: 10am-7pm • Saturday: 10am-6pm

ETOBICOKE STORE OPEN AT 8AM MON. - FRI.

### ON SITE SERVICE & NETWORK SOLUTIONS AVAILABLE

- Wiring (PC, Phone & Fibre Optic)
- Internet & Printer Sharing
- Home & Office Setup
- Lan's to Wan's

Call  
**Etobicoke Store For Details**  
**(416) 252-4868**

### Hard Drives

5400RPM UDMA66/100	
20GB Ultra-100 EIDE	\$94.83
40GB Ultra-100 EIDE	\$109.83
80GB Ultra-100 EIDE	\$129.83
80GB Ultra-100 EIDE	\$149.83
120GB Ultra-100 EIDE	\$229.83
160GB Ultra-100 EIDE	\$394.83

### 7200RPM UDMA133

20GB Ultra-133 EIDE	\$109.83
40GB Ultra-133 EIDE	\$129.83
80GB Ultra-133 EIDE	\$144.83
80GB Ultra-100 EIDE	\$169.83
120GB Ultra-100 EIDE	\$249.83
160GB Ultra-133 EIDE	\$349.83
200GB Ultra-133 EIDE	\$499.83

CALL FOR UP TO DATE  
SCSI PRICING

### Motherboards

ASUS:	
P4B Socket 478, AGP, Intel i845 G Dimm.	\$159.83
P4B533 Socket 478, AGP, Intel i845 DDR	\$199.83
P4T533-C Socket 478 Intel i860 4 Dimm.	\$249.83
P4S533 Socket 478 SIS 645 DX DDR	\$159.83
A7N266 Socket A, NVIDIA FORCE-400 DDR	\$199.83
A7V333-E Raid Socket A, Via KT333 DDR	\$209.83

ABIT:	
BD77I-Socket 478 Intel i845 DDRAM	\$149.83
937I-Raid Socket 478 Intel i845 DDRAM w/raid	\$159.83
Big7 Socket 478 Intel i845 Video & DDR	\$179.83
IT7 Socket 478 Intel i845 Video & DDR	\$229.83
K07-333 Socket A Via K2333 DDR	\$129.83
K07-333Raid Socket A Via K2333 DDR	\$149.83
K07Socket A KT400 8x AGP	\$189.83
K07Socket A KT400 8x AGP w/Raid	\$219.83

ECB:	
K755A S18735 700MHz 266 FSB w/LA	\$39.83
K755M S187302 DIM 266 FSB w/LA	\$39.83
P4 S5A S18845 200MHz w/LA	\$39.83
P4V XAO-Raid S33 FSB DDR w/LA/Raid	\$129.83

### Sound Cards

Creative Labs:	
Soundblaster PCI 128 OEM	\$29.83
Soundblaster "Live" Value 5 1 OEM	\$49.83
Soundblaster Audigy Value OEM	\$94.83
Soundblaster Audigy 2	\$189.83
Soundblaster Audigy 2 Platinum	\$279.83
Soundblaster Audigy Platinum Retail	\$219.83
Soundblaster Exigy Retail	\$214.83
Soundblaster Audigy Platinum EX Retail	\$344.83
168N PCI/ISA Stereo Sound Card	\$19.83

## EDGE PC CHOICE SYSTEM



Norton  
AntiVirus  
2002  
Included!

"17"  
SVGA  
Monitor  
Included!

All this for only  
**\$45/month**  
DAC

# Pentium 4 - 2Ghz

The Best System Deal In Town!

CD-RW & DVD  
At This  
Low Price!!!

- Intel Pentium 4 Motherboard
- 256MB PC 266 DDR Ram
- Nvidia G-Force 4 64MB AGP Video Card
- 40GB UDMA133 7200 RPM Hard Drive
- 104Key Windows XP PS/2 Keyboard & Mouse
- 1.44MB Floppy Drive
- 48x12x40 CD-RW
- 16X DVD Drive
- 168N 3D Sound Card
- 280W Stereo Speakers
- MS Windows XP Home
- 56K V.90 PCI Voice/Fax Modem
- 10/100 Network Card

**\$1299.83**

## EDGE PC VALUE EDGE PC EXTREME

- Elegant Mid Tower ATX Case
- 256 MB RAM
- 30GB UDMA133 Hard Drive
- 32 MB AGP Video Card
- 104 Keyboard & Mouse
- 52X Int CD-ROM Drive
- 16 Bit Stereo Sound
- 120 Watt Amplified Speakers
- 56K V-90 Voice/Fax Modem
- 10/100 Network Card

Great  
Value  
System!

MB Duron 1.2 Ghz	\$489.83	\$21/month
AMD XP 1.7 Ghz	\$489.83	\$25/month
Intel Celeron 1.7 Ghz	\$479.83	\$23/month
Pentium 4 - 1.7 Ghz	\$599.83	\$27/month

- Elegant Mid Tower ATX Case
- 512 MB DDR RAM
- 80 GB UDMA133 7200 RPM Hard Drive
- Nvidia G-Force 4 TI 4200
- 128MB AGP Video Card
- 104 Keyboard & Mouse
- 16X Int EIDE DVD Drive
- 40x12x40 Internal CD/RW Drive
- 16 Bit Stereo Sound
- 120 Watt Stereo Speakers
- 56K V-90 Voice/Fax Modem
- 10/100 Network Card

Ultimate  
Power &  
Performance

AMD XP 2100 Plus	\$1199.83	\$26/month
AMD XP 2400 Plus	\$1329.83	\$27/month
Intel P4 - 2.4Ghz	\$1329.83	\$28/month
Intel P4 - 2.8Ghz	\$1479.83	\$30/month

## DO-IT-YOURSELF UPGRADE!

Packaged & Ready to Pick Up Today!

INCLUDES: •Intel P4 2 Ghz CPU

- New P4 Case with 300W p/s
- P4 Motherboard
- 256 MB Ram
- 10/100 NIC
- 3D Sound



**\$499.83**

### CD-Roms

52X EIDE CD-Rom Drive	\$39.83
16X EIDE DVD-Rom	\$59.83
32x10x40 x16 DVD-CD/WR Combo Drive	\$139.83
40x12x40 EIDE CDRW-Drive	\$69.83
48x12x40 EIDE CDRW-Drive	\$69.83
Yamaha 4x24x44 Internal CD/RW	\$179.83
Plextor Plextor 48x24x48 CDRW Drive	\$199.83
Pioneer DVD-RW & CD-RW Drive	\$499.83

### VideoCards

ATI:	
ATI Radeon 7000 64 MB DDR AGP	\$69.83
ATI Radeon 7500 64 MB DDR AGP	\$99.83
ATI Radeon 9000 64 MB DDR AGP	\$109.83
ATI Radeon 9000 128 MB DDR AGP	\$139.83
ATI Radeon 9000 Pro 128 MB DDR AGP	\$169.83
ATI Radeon 9700 Pro 128 MB DDR AGP	\$519.83
All-In-Wonder Radeon 7500AGP 64MB DDR	\$189.83
All-In-Wonder Radeon 8500 DV 64MB DDR	\$259.83
All-In-Wonder Radeon 8500 DV 128MB DDR	\$429.83

### NVIDIA:

GeForce 2 MX 400 64MB SDRAM AGP	\$84.83
GeForce 2 MX 400 64MB SDRAM AGP w/TV Out	\$109.83
GeForce 4 MX 440 64MB DDR w/TV Out	\$119.83
GeForce 4 TI 4200 64MB DDR w/TV Out	\$199.83
GeForce 4 TI 4200 128MB DDR w/TV Out	\$229.83
GeForce 4 TI 4400 128MB DDR w/TV Out	\$349.83
GeForce 4 TI 4600 128MB DDR w/TV Out	\$429.83

### Networking

Cards / Adapters:	
ISA / PCI 10/100 NE2000 NIC	\$14.83
Link 538TX PCI 10/100 NIC	\$24.83
3Com 905TX PCI 10/100 OEM NIC	\$54.83
LinkSys USB-RF45 10/100 Adapter	\$39.83
LinkSys PCMCIA 10/100 NIC	\$79.83

### Hubs:

5 Port 10MB	\$29.83
5 Port 10/100MB	\$49.83
8 Port 10MB	\$39.83
8 Port 10/100MB	\$59.83
16 Port 10MB	\$99.83
16 Port 10/100MB	\$149.83

### Routers:

D-Link 4 Port Cable/DSL Router	\$99.83
Linksys 4 Port Cable/DSL Router	\$109.83
SMC 4 Port DSL Router with Print Server	\$109.83

### Modems:

96KV.92 PCI Voice/Fax Modem	\$24.83
A-Open SM 56K V.90 PCI Voice/Fax Modem	\$29.83
A-Open PM56K V.90 PCI Voice/Fax Modem	\$49.83
A-Open 56K V.90 ISA Voice/Fax Modem	\$69.83
USR56K V.90 PCI Ph/Fax Hdrw Modem	\$89.83

## BUY USED & SAVE

**DELL USED MONITORS**

Get them while they last

17" as low as \$99.00  
19" as low as \$149.00  
20" as low as \$179.00  
21" as low as \$199.00

**DELL USED LAPTOP**

DELL LATITUDE CPI, P2-366 128MB  
6.4GB, CD, SOUND, 13.3" TFT

Free Case! **\$799.83**

**DELL USED COMPUTER**

P2-350 64MB, 6.4 GB,  
CD, NIC, Sound, K/B, Mouse

Save Big! **\$249.83**

**DELL USED COMPUTER**

P2-400 128MB, 6.4 GB,  
CD, NIC, Sound, K/B, Mouse

Save Big! **\$299.83**

**DELL USED COMPUTER**

P3-450 128MB, 6.4 GB,  
CD, NIC, Sound, K/B, Mouse

Save Big! **\$349.83**

**DELL USED COMPUTER**

P3-500 128MB, 6.4 GB,  
CD, NIC, Sound, K/B, Mouse

Save Big! **\$399.83**

## BLOWOUT DEALS!!!

**50 CD SPINDLE**

Buy Now before price increases **\$19.83**

**CD-RW**

40X10X40 Limited Quantities  
Internal EIDE **\$89.83**

**WEB CAM**

USB Great Deal! **\$49.83**

**Wireless Networking**

2.4 Ghz

Wireless Access Point 4 Port **\$189.83**  
Wireless PCI Card **\$119.83**  
Wireless PCMCIA Card **\$119.83**  
Wireless USB Card **\$119.83**

**CASE MODS AVAILABLE**

- Clear Cases
- Neon Lights
- Side Windows
- Fan Grills
- Round Cabling

See In Store For Details

**BLUE THUNDER**

Mini Drive (USB Drive)

64MB **\$79.83**  
128MB **\$119.83**  
256 MB **\$199.83**  
512 MB **\$459.83**

**BLUE THUNDER**

CF Card Reader/Writer (USB)

Great Price! **\$44.83**

**Etobicoke**

3369 Lakeshore Blvd W.

Phone (416)252-4868  
Fax (416)252-1475  
E-mail: etobicoke@edgeworld.net

**Brampton**

10069 Hurontario St.

Phone (905)840-0902  
Fax (905)840-3710  
E-mail: brampton@edgeworld.net

**Oakville**

2387 Trafalgar Rd Unit E.

Phone (905)257-0082  
Fax (905)257-1302  
E-mail: oakville@edgeworld.net

**Mississauga**

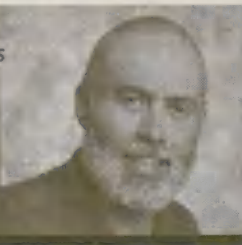
55 Dundas St E Unit 2

Phone (905)281-3893  
Fax (905)281-3895  
E-mail: mississauga@edgeworld.net

The Computer Edge is not responsible for mislabeled or misrepresented items. All prices are subject to change without notice and may vary by geographic location. © February 2003

Alan Thwait's

## The World Is My Cubicle



Spam's been getting a lot of press for quite a while now. Not surprising, I guess, since it happens to all of us. It's been one of the unlooked-for consequences of the ubiquity of the Internet. Sure, we can e-mail Grandma in Hoboken, connect with tiddliwink sites in Japan and download images that are graphic in more ways than one. And let's not forget that the Net is one of the tools that's used to the fullest by the military mucky-mucks of nation-states all around the globe, both the White Hats and the Black Hats. The Internet is great.

But who would have thought that the miracle of global communication would have brought spam to everyone's virtual doorstep? It's here, though, and it's ours, so we might as well get to know it. Herewith, some history, some reflection and a burning question or two from your friendly correspondent on the subject of spam.

Spam, the real stuff, was invented in 1927 in Minnesota. The "distinctive chopped pork shoulder and ham mix-

# Some Spammish thoughts ...

ture" was developed by Jay C. Hormel, son of George A. Hormel, the founder of the Hormel Company, and was originally marketed as "Hormel Spiced Ham." The name was changed to "Spam" after a contest was initiated by Hormel to counter the efforts of imitators.

In 1937, a version of Spam was developed that needed no refrigeration. That's when sales really took off. Spam became an essential part of the rations of American soldiers in World War II. Years later, Nikita Krushchev credited Spam with the survival of the Russian Army during the same conflict.

Not content with invading the stomachs of the public, Hormel also saw to it that the stuff got into people's heads. In 1940, Spam was the subject of the first singing commercial heard on radio. The jingle was sung to the tune of the chorus of "My Bonnie Lies Over the Ocean." For those whose curiosity is insatiable, the lyrics were "Spam, Spam, Spam/ Hormel's new miracle meat in a can/ Tastes fine, saves time,/ If you want something grand,/ Ask for Spam!"

Fast forward a couple of decades. In the second series of *Monty Python's*

*Flying Circus*, the Pythons "celebrated" the famous luncheon meat in their now-legendary Spam skit.

The skit takes place in a cafe. At one table are a number of Vikings, all wearing horned helmets. A man (Eric Idle) and his wife (Graham Chapman, in drag) enter the cafe and sit at a neighbouring table. The waitress (Terry Jones, also in drag) offers various menu choices, all of which involve Spam. Whenever she mentions the word, the Vikings sing or chant in response. Typical Python craziness, but its success hinged on Spam's notoriety. (You can hear the original skit, via streaming RealAudio, at [www.detrinus.org/spam/skit.html](http://www.detrinus.org/spam/skit.html))

The line from the skit that echoes in the minds of present-day Internet users is the wife's plaintive cry, "I don't want ANY Spam!"

No ma'am, and nor do we. But it pours into our mailboxes, day after day. It's about mortgage rates and inkjet printer cartridge offers that can't be beat. It's about offers to modify the size of various body parts. It even comes in the form of flattering messages direct from Nigerian bankers, or the wives of

recently-deposed dictators, who need our help to get back on their feet again. It's annoying, time-consuming and sometimes downright offensive.

But you know what? Internet spam isn't really very different from a lot of the other nonsense that comes into my personal space. I didn't ask the landscape to be littered with billboards touting the latest and baddest SUV or the hair colour that's going to optimize my sex life. I didn't ask that some near-adolescent telemarketer interrupt my peaceful evening with his unctuous, grasping questions. It's all an invasion of my space, and it's all repugnant.

So why is all the fuss being made on spam? Because it's new? Because it comes via the Internet, the media's favourite whipping-boy? Or is it simply because spam hasn't — yet — become the vehicle of big, socially-approved corporations? If it's the latter, then heaven help us — things are only going to get worse.

Alan Thwait's, a *TC* Contributing Editor, is a freelance journalist who writes about computer, communications, and business technologies. He can be reached at [praxis@pathcom.com](mailto:praxis@pathcom.com).

## Read Total Gamer Canada's premiere gaming magazine

**TOTAL GAMER**  
September 2002 FREE

**STARFOX ADVENTURES**

[www.totalgamer.ca](http://www.totalgamer.ca)

Total Coverage. All Platforms.

Kevin Linfield

Linfield's  
Line



I like being on the trailing edge of technology. Back when I first started with computers, I loved being on the leading edge. There is a big difference between the two, and each position has its advantages and disadvantages. However, I've now decided that the trailing edge is for me.

#### Go with a winner

If you are on the trailing edge of technology, you already know what has been successful and what has crashed and burned. History shows that trailing-edgeers can save a lot of headaches and money; just recall the famous VHS versus Beta wars of the early 1980s. Did you rush out and buy Beta or did you wait and put your money on VHS? After a good chunk of time, my family went with VHS. And just before Christmas last year, I finally joined the 1990s and bought a DVD player.

Or how about a handheld computer? Did you buy an Apple Newton or did

# The joys of the trailing edge

you wait for Palm and Pocket PC to revolutionize the industry? I love my Palm IIIc. Sure, it is not as flashy as the latest Palm Tungsten or the Sony NR70, and I don't get to brag to my friends. However, it does the job very well and I know what accessories are available.

#### Save money

A big reason for sticking with the trailing edge is that your purchase prices are always lower.

I picked up a digital camera attachment for my Palm for less than 40 per cent of its regular retail price, and a Palm folding keyboard for my wife's Palm III for only \$25. I recently doubled the RAM in my old 486 notebook for less than \$40. Sure, the Palm IIIs are no longer being made and my notebook was discontinued years ago, but surplus stock abounds if you have the time and patience to find it.

If you've perused the ads in this issue of *Toronto Computes!*, you will notice that many stores now focus on clearance items or older stock. Some items are available at an incredible bargain. Ever want a notebook? You can buy one for less than \$500.

#### Honest reviews abound

Another advantage of the trailing edge is you can get a better feel for the performance and reliability of products based on others' experiences. By talking to friends, relatives or reading postings on the Internet, it is fairly straightforward to obtain reviews and opinions. Need help getting that older accessory working? A quick visit to Google may be all you need to ensure happiness. A problem I find with the leading edge is that much of the media wants to sugarcoat how great a product is. End-user reviews are always the way to go, and you only get those once a product has been on the market for a while.

#### Support

You also have an advantage of excellent hardware and/or software support and you can almost always ensure compatibility with trailing edge technology. For example, if you bought the leading-edge Palm Tungsten PDA, you will quickly find that you can only acquire a few accessories for it, and not much software is available to take advantages of its new features.

Those who installed Windows XP over

Windows 98 may have been in for a surprise when they learned that some of their hardware was not supported. Besides, I don't care if Windows XP doesn't support my hardware, because I am still running Windows 98SE without any problems and don't need to upgrade.

#### Trailing-edge thoughts

I used to be on the leading edge and poked fun at people who were stuck on the trailing edge. But as time went on, I have found myself mired on the trailing edge of technology. If you focus on slightly older technology, you don't need the up-to-date software support that comes with the latest-and-greatest. You have a lot of support from other sources such as friends and the Internet, and most computer users are smart enough to handle any little problems on their own.

I really like being able to buy surplus items at (what I consider are) great prices, and I personally can't afford to purchase a new PC every 6 months or so.

Personal e-mail to Kevin Linfield, P.Eng. can be sent to [linfield@rocketmail.com](mailto:linfield@rocketmail.com). ♦

## POWERFUL INTERNET SOLUTIONS...

### ★ SPECIALS ★

Valid until March 31st 2003

#### UNLIMITED INTERNET ACCESS

**\$10.95**

/MONTH

- 5 E-mail accounts
- 25MB Web Space
- Virus & Spam Filter

#### HIGH SPEED ADSL

**\$29.95**

/MONTH

- \$29.95/month for the first 3 months (\$34.95/month thereafter)

#### PROFESSIONAL WEBSITE HOSTING

FROM

**\$10.95**

/MONTH

- 40MB Web Space
- E-mail accounts
- 24x7 Technical Support

[www.mycybernet.net](http://www.mycybernet.net)

Prices are based on annual pre-payment

### ★ NEED A WEBSITE ? ★

- Website Design & Development
- Website Re-design
- e-Commerce Solutions
- Custom Applications
- Database Integration
- Maintenance & Updates
- Corporate Identity

▶▶▶ Call Today!

MBT  
MARKHAM  
BOARD OF TRADE



The  
**web.solvers**

Internet & Hosting Solutions - [sales@mycybernet.net](mailto:sales@mycybernet.net) **CALL 905.947.1801** Web Design & Development - [sales@thewebsolvers.com](mailto:sales@thewebsolvers.com)



## Mac Chronicles

A thought struck me as I was setting up an AirPort network with my laptop the other day — did Apple call it "AirPort" because it is a networking "port" that magically flies data through the "air" to and from your computer? Or did they call it that because of the striking similarities that can be seen when this white mushroom-cap-shaped device is compared to an actual airport? Let's see if we can figure this mystery out.

When you purchase an Apple AirPort you really have no choices to make. It comes in one colour, one shape and one configuration. In this case, one size fits all. You don't have to worry about compatibility either. Just make sure your Mac has an AirPort wireless card installed and it will recognize any AirPort within range.

The same is true when you go to an airport to catch a flight. You don't choose your terminal nor the type of airplane you are going to fly on. They're all pretty much the same — couple of jet

# Planes, trains and AirPorts

engines, wings, tail — and every time a jet is within range of another airport, it's recognized by that control tower.

Setting up an Apple AirPort can be a breeze, but like all walks in the park, there can occasionally be some rough terrain. Apple has gone to great lengths to create a true plug-and-play world. The AirPort I got was a demo unit that had been set up previously in a working environment. First, it was password protected. Now I suppose the upside to this is that password protection does work. If you have friends or family that are constantly using your AirPort connection for free Internet access — block 'em! And don't underestimate the importance of password protection with a wireless network. A friend of mine demonstrated how he could sit in his living-room and log onto the wireless network of his next-door neighbour.

A soft reset clears the password and is in the troubleshooting section of the manual. After doing that, I found that access to this particular unit was restricted to the computers that were listed in its memory. A hard reset was the only way to clear everything and start from scratch. Information about

the hard reset was found at Apple's support site on the Web. When that was done, I had only to follow a few simple setup steps and suddenly my wireless network connection was alive and well.

When going through an airport most of us have a hassle free experience. Once in a while you get one loud mouth at the security station and suddenly everybody is a suspect. Sure, they smile as they go through your bags with a magnifying glass and let the drug dogs lick the chocolate you bought for your wife, but it doesn't make it better.

Apple claims that the AirPort is good for distances up to 50 metres. I suppose that could be true if you live in a house with no walls and no electrical interference. I don't know about you, but that's not my house. Cement and plaster walls are the biggest problem for these types of wireless devices.

As soon as you get a cement wall and 20 feet between the computer and the AirPort base, you lose the signal. That's why placing the base station close to where you will be working is essential. I had visions of working wirelessly everywhere in my house — in the kitchen, bedroom, outside and on the stairs.

Realistically, I still tend to stick near my office area. But now I can sit in a more comfortable chair with my feet up. Plus, once you have a connection, it stays. I haven't lost a download yet. And it's just as fast as a wired connection.

How far can an airplane go? A lot further than the Apple AirPort, but you do have to get out of your chair to get to one. And airplanes are pretty reliable too.

It seems to me that AirPort and airports actually have a lot in common. I doubt very much that Apple had airports in mind when designing their wireless wonder, but hey, a good idea is a good idea — fly with it. ♦

## more INFO

AirPort Base Station is IEEE 802.11b Wi-Fi certified (tech talk meaning it works with a bunch of regular PCs too and non-Apple cards)

To learn more about the AirPort check out [www.apple.com/airport](http://www.apple.com/airport)

### Requirements:

An Apple computer running Mac OS 9.0.4 or later and an AirPort card.  
A PC can access the AirPort network after being set up by an Apple computer. The PC must have an IEEE 802.11b certified wireless card.

## \*Union Computer & Electronic\*

2107 Yonge Street, Toronto (Between Eglinton and Davisville) 2nd traffic light south of Eglinton, East side on Yonge  
Parking at rear OPEN SUNDAY Non-Fri 10AM-7PM Sat 10AM-6PM Tel: 416-488-9293 Fax: 416-488-5085  
255 Morningside Ave. Unit 205 Scarborough Morningside Mall (Morningside & Kingston) Tel: 416-283-3042 Fax: 416-283-5381

OPEN SUNDAY Non-Fri 10AM-6PM Sat 10AM-6PM Tel: 416-283-3042 Fax: 416-283-5381

Hard Drive (Please call for latest prices)

Maxtor 20 40 / 60 / 120 / 160 / 200 / 250 / 320 / 400 / 540 / 720 / 900 / 1080 / 1280 / 1440 / 1600 / 1800 / 2000 / 2250 / 2500 / 2800 / 3000 / 3200 / 3600 / 4000 / 4500 / 5000 / 5400 / 6000 / 6400 / 7200 / 8000 / 9000 / 10000 / 11000 / 12000 / 13000 / 14000 / 15000 / 16000 / 18000 / 20000 / 22500 / 25000 / 28000 / 30000 / 32000 / 36000 / 40000 / 45000 / 50000 / 54000 / 60000 / 64000 / 72000 / 80000 / 90000 / 100000 / 110000 / 120000 / 130000 / 140000 / 150000 / 160000 / 180000 / 200000 / 225000 / 250000 / 280000 / 300000 / 320000 / 360000 / 400000 / 450000 / 500000 / 540000 / 600000 / 640000 / 720000 / 800000 / 900000 / 1000000 / 1100000 / 1200000 / 1300000 / 1400000 / 1500000 / 1600000 / 1800000 / 2000000 / 2250000 / 2500000 / 2800000 / 3000000 / 3200000 / 3600000 / 4000000 / 4500000 / 5000000 / 5400000 / 6000000 / 6400000 / 7200000 / 8000000 / 9000000 / 10000000 / 11000000 / 12000000 / 13000000 / 14000000 / 15000000 / 16000000 / 18000000 / 20000000 / 22500000 / 25000000 / 28000000 / 30000000 / 32000000 / 36000000 / 40000000 / 45000000 / 50000000 / 54000000 / 60000000 / 64000000 / 72000000 / 80000000 / 90000000 / 100000000 / 110000000 / 120000000 / 130000000 / 140000000 / 150000000 / 160000000 / 180000000 / 200000000 / 225000000 / 250000000 / 280000000 / 300000000 / 320000000 / 360000000 / 400000000 / 450000000 / 500000000 / 540000000 / 600000000 / 640000000 / 720000000 / 800000000 / 900000000 / 1000000000 / 1100000000 / 1200000000 / 1300000000 / 1400000000 / 1500000000 / 1600000000 / 1800000000 / 2000000000 / 2250000000 / 2500000000 / 2800000000 / 3000000000 / 3200000000 / 3600000000 / 4000000000 / 4500000000 / 5000000000 / 5400000000 / 6000000000 / 6400000000 / 7200000000 / 8000000000 / 9000000000 / 10000000000 / 11000000000 / 12000000000 / 13000000000 / 14000000000 / 15000000000 / 16000000000 / 18000000000 / 20000000000 / 22500000000 / 25000000000 / 28000000000 / 30000000000 / 32000000000 / 36000000000 / 40000000000 / 45000000000 / 50000000000 / 54000000000 / 60000000000 / 64000000000 / 72000000000 / 80000000000 / 90000000000 / 100000000000 / 110000000000 / 120000000000 / 130000000000 / 140000000000 / 150000000000 / 160000000000 / 180000000000 / 200000000000 / 225000000000 / 250000000000 / 280000000000 / 300000000000 / 320000000000 / 360000000000 / 400000000000 / 450000000000 / 500000000000 / 540000000000 / 600000000000 / 640000000000 / 720000000000 / 800000000000 / 900000000000 / 1000000000000 / 1100000000000 / 1200000000000 / 1300000000000 / 1400000000000 / 1500000000000 / 1600000000000 / 1800000000000 / 2000000000000 / 2250000000000 / 2500000000000 / 2800000000000 / 3000000000000 / 3200000000000 / 3600000000000 / 4000000000000 / 4500000000000 / 5000000000000 / 5400000000000 / 6000000000000 / 6400000000000 / 7200000000000 / 8000000000000 / 9000000000000 / 10000000000000 / 11000000000000 / 12000000000000 / 13000000000000 / 14000000000000 / 15000000000000 / 16000000000000 / 18000000000000 / 20000000000000 / 22500000000000 / 25000000000000 / 28000000000000 / 30000000000000 / 32000000000000 / 36000000000000 / 40000000000000 / 45000000000000 / 50000000000000 / 54000000000000 / 60000000000000 / 64000000000000 / 72000000000000 / 80000000000000 / 90000000000000 / 100000000000000 / 110000000000000 / 120000000000000 / 130000000000000 / 140000000000000 / 150000000000000 / 160000000000000 / 180000000000000 / 200000000000000 / 225000000000000 / 250000000000000 / 280000000000000 / 300000000000000 / 320000000000000 / 360000000000000 / 400000000000000 / 450000000000000 / 500000000000000 / 540000000000000 / 600000000000000 / 640000000000000 / 720000000000000 / 800000000000000 / 900000000000000 / 1000000000000000 / 1100000000000000 / 1200000000000000 / 1300000000000000 / 1400000000000000 / 1500000000000000 / 1600000000000000 / 1800000000000000 / 2000000000000000 / 2250000000000000 / 2500000000000000 / 2800000000000000 / 3000000000000000 / 3200000000000000 / 3600000000000000 / 4000000000000000 / 4500000000000000 / 5000000000000000 / 5400000000000000 / 6000000000000000 / 6400000000000000 / 7200000000000000 / 8000000000000000 / 9000000000000000 / 10000000000000000 / 11000000000000000 / 12000000000000000 / 13000000000000000 / 14000000000000000 / 15000000000000000 / 16000000000000000 / 18000000000000000 / 20000000000000000 / 22500000000000000 / 25000000000000000 / 28000000000000000 / 30000000000000000 / 32000000000000000 / 36000000000000000 / 40000000000000000 / 45000000000000000 / 50000000000000000 / 54000000000000000 / 60000000000000000 / 64000000000000000 / 72000000000000000 / 80000000000000000 / 90000000000000000 / 100000000000000000 / 110000000000000000 / 120000000000000000 / 130000000000000000 / 140000000000000000 / 150000000000000000 / 160000000000000000 / 180000000000000000 / 200000000000000000 / 225000000000000000 / 250000000000000000 / 280000000000000000 / 300000000000000000 / 320000000000000000 / 360000000000000000 / 400000000000000000 / 450000000000000000 / 500000000000000000 / 540000000000000000 / 600000000000000000 / 640000000000000000 / 720000000000000000 / 800000000000000000 / 900000000000000000 / 1000000000000000000 / 1100000000000000000 / 1200000000000000000 / 1300000000000000000 / 1400000000000000000 / 1500000000000000000 / 1600000000000000000 / 1800000000000000000 / 2000000000000000000 / 2250000000000000000 / 2500000000000000000 / 2800000000000000000 / 3000000000000000000 / 3200000000000000000 / 3600000000000000000 / 4000000000000000000 / 4500000000000000000 / 5000000000000000000 / 5400000000000000000 / 6000000000000000000 / 6400000000000000000 / 7200000000000000000 / 8000000000000000000 / 9000000000000000000 / 10000000000000000000 / 11000000000000000000 / 12000000000000000000 / 13000000000000000000 / 14000000000000000000 / 15000000000000000000 / 16000000000000000000 / 18000000000000000000 / 20000000000000000000 / 22500000000000000000 / 25000000000000000000 / 28000000000000000000 / 30000000000000000000 / 32000000000000000000 / 36000000000000000000 / 40000000000000000000 / 45000000000000000000 / 50000000000000000000 / 54000000000000000000 / 60000000000000000000 / 64000000000000000000 / 72000000000000000000 / 80000000000000000000 / 90000000000000000000 / 100000000000000000000 / 110000000000000000000 / 120000000000000000000 / 130000000000000000000 / 140000000000000000000 / 150000000000000000000 / 160000000000000000000 / 180000000000000000000 / 200000000000000000000 / 225000000000000000000 / 250000000000000000000 / 280000000000000000000 / 300000000000000000000 / 320000000000000000000 / 360000000000000000000 / 400000000000000000000 / 450000000000000000000 / 500000000000000000000 / 540000000000000000000 / 600000000000000000000 / 640000000000000000000 / 720000000000000000000 / 800000000000000000000 / 900000000000000000000 / 1000000000000000000000 / 1100000000000000000000 / 1200000000000000000000 / 1300000000000000000000 / 1400000000000000000000 / 1500000000000000000000 / 1600000000000000000000 / 1800000000000000000000 / 2000000000000000000000 / 2250000000000000000000 / 2500000000000000000000 / 2800000000000000000000 / 3000000000000000000000 / 3200000000000000000000 / 3600000000000000000000 / 4000000000000000000000 / 4500000000000000000000 / 5000000000000000000000 / 5400000000000000000000 / 6000000000000000000000 / 6400000000000000000000 / 7200000000000000000000 / 8000000000000000000000 / 9000000000000000000000 / 10000000000000000000000 / 11000000000000000000000 / 12000000000000000000000 / 13000000000000000000000 / 14000000000000000000000 / 15000000000000000000000 / 16000000000000000000000 / 18000000000000000000000 / 20000000000000000000000 / 22500000000000000000000 / 25000000000000000000000 / 28000000000000000000000 / 30000000000000000000000 / 32000000000000000000000 / 36000000000000000000000 / 40000000000000000000000 / 45000000000000000000000 / 50000000000000000000000 / 54000000000000000000000 / 60000000000000000000000 / 64000000000000000000000 / 72000000000000000000000 / 80000000000000000000000 / 90000000000000000000000 / 100000000000000000000000 / 110000000000000000000000 / 120000000000000000000000 / 130000000000000000000000 / 140000000000000000000000 / 150000000000000000000000 / 160000000000000000000000 / 180000000000000000000000 / 200000000000000000000000 / 225000000000000000000000 / 250000000000000000000000 / 280000000000000000000000 / 300000000000000000000000 / 320000000000000000000000 / 360000000000000000000000 / 400000000000000000000000 / 450000000000000000000000 / 500000000000000000000000 / 540000000000000000000000 / 600000000000000000000000 / 640000000000000000000000 / 720000000000000000000000 / 800000000000000000000000 / 900000000000000000000000 / 1000000000000000000000000 / 1100000000000000000000000 / 1200000000000000000000000 / 1300000000000000000000000 / 1400000000000000000000000 / 1500000000000000000000000 / 1600000000000000000000000 / 1800000000000000000000000 / 2000000000000000000000000 / 2250000000000000000000000 / 2500000000000000000000000 / 2800000000000000000000000 / 3000000000000000000000000 / 3200000000000000000000000 / 3600000000000000000000000 / 4000000000000000000000000 / 4500000000000000000000000 / 5000000000000000000000000 / 5400000000000000000000000 / 6000000000000000000000000 / 6400000000000000000000000 / 7200000000000000000000000 / 8000000000000000000000000 / 9000000000000000000000000 / 10000000000000000000000000 / 11000000000000000000000000 / 12000000000000000000000000 / 13000000000000000000000000 / 14000000000000000000000000 / 15000000000000000000000000 / 16000000000000000000000000 / 18000000000000000000000000 / 20000000000000000000000000 / 22500000000000000000000000 / 25000000000000000000000000 / 28000000000000000000000000 / 30000000000000000000000000 / 32000000000000000000000000 / 36000000000000000000000000 / 40000000000000000000000000 / 45000000000000000000000000 / 50000000000000000000000000 / 54000000000000000000000000 / 60000000000000000000000000 / 64000000000000000000000000 / 72000000000000000000000000 / 80000000000000000000000000 / 90000000000000000000000000 / 100000000000000000000000000 / 110000000000000000000000000 / 120000000000000000000000000 / 130000000000000000000000000 / 140000000000000000000000000 / 150000000000000000000000000 / 160000000000000000000000000 / 180000000000000000000000000 / 200000000000000000000000000 / 225000000000000000000000000 / 250000000000000000000000000 / 280000000000000000000000000 / 300000000000000000000000000 / 320000000000000000000000000 / 360000000000000000000000000 / 400000000000000000000000000 / 450000000000000000000000000 / 500000000000000000000000000 / 540000000000000000000000000 / 600000000000000000000000000 / 640000000000000000000000000 / 720000000000000000000000000 / 800000000000000000000000000 / 900000000000000000000000000 / 1000000000000000000000000000 / 1100000000000000000000000000 / 1200000000000000000000000000 / 1300000000000000000000000000 / 1400000000000000000000000000 / 150000
--

**3 DAYS ONLY!** A PC and Mac show  
computerfest.ca

# Computer Super Sale

Canada's **LARGEST** Computer Show and Sale

**\$12 million** of Computer Products at  
**BLOW-OUT PRICES!**

**Pentium  
Notebooks**

starting at  
**\$95**

**P-4 System**

1.8a GHz Base System  
256 MB RAM, Floppy  
Built-in LAN, Sound  
**\$489**

**USB 2.0  
Hard drives**  
starting at  
**\$59<sup>95</sup>**

**Flat-panel LCD**  
15-inch monitor **\$399**  
17-inch monitor **\$599**

**Floppy  
drives, used**  
**\$2<sup>95</sup>**

**CD-RW  
Lite On**  
48x24x40  
**\$95**

**Toshiba  
DVD-R/RW  
Drive**  
**\$457**

**Parking \$3\***  
At Ontario Place  
\*\$5 minus \$2 rebate on  
computerfest admission

**Myst** full version  
in jewel case **\$2<sup>99</sup>**

**Software  
Books** from **\$1**

**Laptop Memory**  
256 MB  
DDR-RAM **\$89**

Over **100**

**EXHIBITORS**  
New, Used,  
Closeouts &  
Overstocks

**UP TO 80% OFF**

- Free Expert Advice
- PC Games Arcade
- Free Seminars

**SOFTWARE  
GIVEAWAY**  
First 400 visitors  
on Saturday &  
Sunday receive a free  
PC software  
package

**DOOR PRIZE!**  
from **ULTINET:**  
**AMD XP 2100** computer  
w/CD burner, 17" monitor

Computer Fest sponsored by:

**computes!**  
Technology lifestyle

**pizza pizza**

REVIEWS



By ALAN ZISMAN

Have you noticed? Lately, the Internet doesn't seem to be as much fun as it used to be. What, a few years ago, was an exciting way to communicate and get news and information now has become increasingly painful to use.

With an increased number of viruses, hack attacks, pop-up Web pages and more, online has changed from the sort of community where people left their front doors unlocked to a place where everyone needs to invest in multiple deadbolts and bars, and peek out cautiously when anyone knocks.

Symantec's *Norton Internet Security 2003*, now in its third edition, promises to reduce the risks and inconveniences of being online.

Like previous versions, the 2003 edition (\$109) bundles the latest versions of the company's *Norton Antivirus* and *Norton Personal Firewall* (each available separately for \$69). Last year, NAV added the option to scan outgoing e-mail to catch any viruses before they infect others. New this year is the option to watch several instant messaging programs — though not the popular ICQ program. It's easier than ever to update the virus definitions automatically, no user intervention is needed. (A one-year subscription to Symantec's Live Update is included with the purchase of NAV or NIS; afterwards, you will need to renew to continue the automated service. Alternately, you can manually download the latest virus definition files for free.)

Like other software firewalls, *Norton Personal Firewall* hides your computer from hackers randomly probing the Internet for vulnerable systems. As well, it keeps track of programs on your computer that are trying to connect outside. When it is first installed, it searches your system and presents you with a list of Internet-capable programs. It makes recommendations that it thinks are "friendly." Resist temptation to simply allow everything listed free and easy Net access; instead, grant access to your Web browser and e-mail software. When other programs try to go online, the firewall will inform you, asking for permission.

A new privacy control feature blocks attempts to send credit card, bank



account and other sensitive information from your computer without your knowledge. Also new and very welcome is the option to screen out standard Web ads and annoying pop-up and pop-under browser windows. This feature works better than some others that I have tried, which often keep the main page from loading.

Like NAV, *Personal Firewall* uses Symantec's Live Update to maintain an up-to-date list of online hazards. You also get a one-year subscription when you install the software.

*Norton Internet Security* offers a single interface for access to antivirus and firewall features. As well, it includes a number of extra features. You may choose to use it to label e-mail messages with the phrase "Spam Alert." By my informal count, it caught about 80 per cent of the unwanted e-mail arriving on my system. It's up to you to decide where to go from there; the manual discusses how to set up rules in *Outlook Express* or filters in *Eudora* to automatically send labeled messages to the Trash, if desired.

Parents may choose to allow different levels of Internet activity for different users of the computer; editable profiles are included for children and teens, giving parents control over what their children are able to do online. (Once again, lists of blocked sites are updated regularly via the Live Update subscription). A \$149 Pro version of the product is designed to allow employers to block where employees can surf during work.

I would have liked to see the program monitor ICQ as well as other similar programs, and some of the options are difficult to discover. But *Norton Internet Security 2003* goes a long way to making the Internet a safer and more fun place to spend time. ♦

**COMPUTER FEST**  
**FEBRUARY 7-9**

**NATIONAL TRADE CENTRE, EXHIBITION PLACE**

Friday 10am-9pm; Saturday & Sunday 10am-6pm

**CHILDREN 10 & UNDER ADMITTED FOR FREE**

Take 511 streetcar from the Bathurst subway or the 509 Harbourfront car from Union Station.

**\$1 OFF** Regular Single or Family Admission with this coupon

We will send you a **\$3 OFF** coupon once you register your email at [www.computerfest.ca](http://www.computerfest.ca)

**more INFO**

**Norton Internet Security 2003**  
\$109  
Symantec  
[www.symantec.ca](http://www.symantec.ca)

**Requirements:**  
Windows XP/ME/2000/98, 150 MHz processor  
(300 MHz for XP), 64 MB RAM (128 MB required for XP), 90 MB hard disk space,  
Internet Explorer 5.01 or higher, CD-ROM

# Multi-region DVD players open up a world of movies

By TOM VENETIS

Being a movie buff in the age of DVDs can be frustrating. Such films as Pasolini's *Salo*, Wender's *Wings of Desire*, Lynch's *Eraserhead* and Fukasaku's *Battle Royale* are commercially available on DVD in Europe and Asia only, and there is little indication when these pictures will become available in North America. What is even more frustrating is that if one were to purchase the European DVDs of these pictures, they would not be playable on North American DVD players because of the region encoding.

Region encoding is the system created by movie studios to protect the worldwide copyright and distribution mechanisms of their movies on DVD. Since movies are released on different schedules around the world, the studios wanted to make sure that revenues were not lost by people buying DVDs from different regions and thereby diminishing the revenues generated by the local release of DVDs.

Because of the desire of the studios to protect revenues, different parts of the world now have different region codes, restricting the playability of DVDs (see sidebar for the different region codes). A DVD purchased in Europe has a Region 2 code, and only Region 2 capable DVD machines can play the discs. DVDs from North America, with their Region 1 encoding, are unplayable on Region 2 or other region-specific machines, just as non-Region 1 DVDs are unplayable on North American DVD players. So even if a film is released in North America first, consumers in Europe or Asia will have to wait for the studios to release region-specific versions of the movie.

So what is someone to do if they have a non-Region 1 DVD and want to watch it, or if they want to purchase a movie on DVD that is only available in Europe or Asia? The best way to get around the region encoding is to use a multi-region DVD player.

## A player that doesn't discriminate

Multi-region players are designed to play all DVDs, regardless of the region encoding. The problem is that most of these machines are not generally available in consumer electronics stores. Instead, they are in stores that specialize exclusively in selling video and audio products, and there are a variety of stores around North America that

specialize in selling nothing but multi-region DVD players and accessories (see More Info box for stores).

Shane Gorman, wholesale and affiliate manager with the Montreal, Que.-based Merconnet, says that sales have been strong for their NextBase 2 multi-region/multi-function DVD player (\$284). The company has been selling the NextBase multi-region/multi-function player for about two years.

"Some of the sales are definitely to movie buffs that are looking to watch hard-to-find films from different parts of the world," Gorman says. "Others are frequent travellers overseas who often pick up a movie while travelling and want to see it when they get home."

Gorman says that multi-region DVD players are an outgrowth of the multi-region video player market that existed in the 1980s. In Europe, many households had video playback machines that could handle tapes recorded in different television standards — NTSC, PAL and SECAM. Europeans used these machines to watch movies that were only available in North America, or to watch tapes made by relatives living overseas. Many in North America wanted those machines, and when DVD players came along they began to actively demand similar multi-region machines for themselves.

"That is why you are starting to see here in North America a real boom for multi-region DVD players," says Gorman. "People now want to get their hands on a wider variety of releases and materials than are currently available. You saw this with movie collectors and those interested in such things as Japanese animation. Now it is becoming more of a mainstream thing."

## Hollywood fights back

But not everyone is pleased with the growing popularity of multi-region DVD machines. While it is not illegal to sell such machines in North America, the major studios are not happy about the potential lost revenue. To try and dampen their growing popularity, the studios have been coming

up with several ways to make watching movies on these players much more difficult. Recently, the Motion Picture Association of America (MPAA) developed the Regional Code Enhancing (RCE) system that is now being placed on many Region 1 DVDs. The RCE is made to prevent Region 1 DVDs from being played on multi-region DVD players, and there are talks underway to include this technology on DVDs released around the world. Still, many multi-region DVD players are now starting to be released with technology that gets around the RCE system.

Some consumers may be concerned



## Region Codes:

- 1 Canada, United States, US Territories
- 2 Japan, Europe, South Africa, Middle East (including Egypt)
- 3 Southeast Asia, East Asia
- 4 Australia, New Zealand, Pacific Islands, Central America, Mexico, South America, Caribbean
- 5 Russia, India, Pakistan, Africa (except Egypt), North Korea, Mongolia
- 6 China
- 7 Not currently used
- 8 Special international cases (planes, cruise lines, etc.)

that since DVDs from around the world are encoded on different television standards they still may not be playable on North American televisions. Not to worry, as many of the players come with built-in mechanisms that convert the television information for North American televisions. If there are still problems, there are video converters that can convert the signal. Now, one can impress friends with those hard-to-find films and uncut gems that usually only those living outside North America can enjoy. ♦

# FlashDio offers secure storage

By DAVE CHAPPELLE

There are plenty of small USB devices on the market that store encryption keys and passwords. However, the FlashDio allows the encryption of an entire drive and also stores encrypted files and folders.

Inserting the FlashDio into a system prompts a password window. Drivers must be installed on Windows 98 and Mac OS 8.6 computers. Enter a password twice and it's ready to use. Make sure you remember your password, because without it the FlashDio and whatever is stored on it, become useless.

Folders, subfolders and files can be encrypted by right-clicking on a folder or file and selecting the encryption option. To read an encrypted file, your password must be entered.

Sections of a hard drive or an entire drive can be encrypted. When the FlashDio is removed, the drive is safe until the device is re-inserted into the USB port.

Folders and files can also be saved to the FlashDio as if it were a removable disk, which is how it appears in the "My Computer" section.

While storage capacities from 16 MB up to 512 MB can be purchased,

the physical size of each FlashDio remains constant at 1x2.4x8.3 cm and 15 g. A plastic cap with a pocket clip covers the USB connector. A small hole at the other end can be used to attach the FlashDio to the included necklace or a key chain for safekeeping.

A 120 cm (4 ft.) cable is included, meaning you only have to reach around to the back of your system once to connect to USB ports found on the rear panel.

This technology offers several possibilities. Important information can be stored offsite, away

from disaster and prying eyes. Simply removing the unit from the USB port renders any encrypted data unreadable. If large amounts of data on the system must be encrypted, removing the FlashDio is an easy method of doing so, without the hassle and potential dangers of physically removing the system hard disk.

It occurred to me that the portability, encryption, and sensitive data safekeeping capabilities make FlashDio a natural accessory in the toolkit of the "spooky characters" inhabiting agencies such as CSIS, the RCMP, the CIA or the FBI. Representatives of the Canadian distributor (Paratech Trading in Burnaby, B.C.) would neither confirm nor deny my suspicions. ♦



## more INFO

**FlashDio**  
US\$36-\$900, depending on storage capacity  
Diagraphy Inc.  
[www.flashdio.net](http://www.flashdio.net)  
In Canada: Paratech Trading, (604) 808-5622

**Requirements:**  
Mac OS 9.0 or higher  
WinME/XP/2000  
Drivers included for Win98 and Mac OS 8.6

## Developers bring the Grotto to life

By GEOFF MARTIN

It was bound to happen sooner or later. Many a young man has dreamed of living the life of *Playboy* magazine founder Hugh Hefner, and they'll soon be able to step into his virtual slippers, with the help of a Toronto video game developer.

Toronto's own Groove Games ([www.groovegames.com](http://www.groovegames.com)) has been given the nod to develop a multi-platform game following Hefner's day-to-day activities after a deal was recently worked out between Arush Entertainment ([www.arushgames.com](http://www.arushgames.com)), an Arizona-based video game distributor best known for the *Duke Nukem* franchise of games, and Playboy Enterprises.

According to Arush, the "world-building" game that's set to hit store shelves sometime in 2004 will simulate the life of Hugh Hefner, complete with hanging out in the Playboy mansion with his half-dozen live-in girlfriends and an ever-changing cast of Playboy Bunnies, as well as hosting the mansion's infamous parties. The game won't simply be a simulation of Hef's life of leisure, however, as players will also have to manage the business side of the magazine that makes his lifestyle possible.

According to Arush, the game will likely carry a Mature rating and will more than likely feature a topless woman or three, but the focus will be on "sexy, not sex."

It's all part of a growing trend of games marketed towards adult game players, as evidenced by the success of Acclaim's *BMX XXX* — a game that somehow manages to combine riding



BMX bicycles and visiting strip joints, to the consternation of parents and moral guardians everywhere.

Despite the storm of protests Groove Games' latest venture is likely to elicit, it's going to be an almost sure-fire home run, since *Playboy's* 3.1 million subscribers spent a total of US\$300 million on video games last year. Now that the average gamer is rapidly approaching his or her thirties, it seems they're looking for female characters slightly more racy than Ms. Pac Man, and like it or not, we can only expect to see more games of this type in the future.



### Taking the fight out of football

As the video game industry sinks to new depths with increasingly realistic and sordid depictions of sex and violence, not everyone with a stake in the industry is blindly going along with it, most notably the National Football League.

As the 2003 football playoffs were in full swing, the league semi-quietly approached Midway Games ([www.midway.com](http://www.midway.com)) and suggested that if the company wished to retain the future rights to the NFL licence, the violent content in its *NFL Blitz 2003* should be toned down significantly in its next revision, if not eliminated altogether.

Midway's version of NFL football is what it calls an "adrenaline-style" sports video game, where the focus is on action over realism. In *NFL Blitz*, pass interference in the form of tackling, piledriving or clotheslining opposing players is not an offence punishable by a penalty, as it would be in a realistic portrayal of NFL football — in fact, it's wholeheartedly encouraged as an essential element of the game. Fighting with other players after a whistle is blown is also encouraged, and players can even adjust their settings to allow more "fighting time" after each whistle, making the console game a cartoonish hybrid of football and professional wrestling.

Gene Goldberg, the NFL vice-president of consumer products, told the media recently that the over-the-top action to be found in *NFL Blitz* is "not what goes on when players are on the field ... Next year, we will dial this back a little more. We're going to err on the side of conservatism," he said.

### What's good for the goose ...

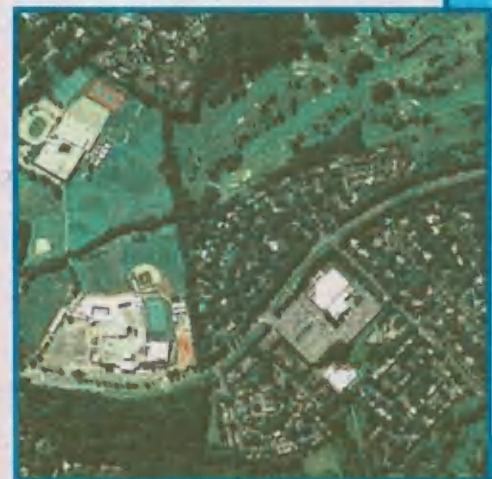
John Poindexter is the brains of the Total Awareness Network, a project of the US government that is aiming to aggregate data on all its citizens from various sources, in order to identify "potential terrorists," but lately, he's the one who's being watched.

The latest brainchild of the Poindexter's Information Awareness Office in the Pentagon has privacy advocates justifiably worried to the point of near-panic, since it will combine data from credit cards, travel activities, school records, medical records and other sources of information. Not content to take this perceived assault on their privacy lying down, several activists have taken to turning the watchful eye of Big Brother on Poindexter himself.

The trouble for Poindexter started when a columnist for *SF Weekly*, a San Francisco-based magazine, published Poindexter's e-mail address and home phone number, which he said were in the public domain, and therefore free for anyone to distribute. The info quickly began popping up at hundreds of other Web sites, and Poindexter was forced to have the number changed. Privacy advocates continued their Web-based campaign and posted satellite photographs of Poindexter's house that are available for purchase from satellite imaging company GlobeXplorer ([www.globexplorer.com](http://www.globexplorer.com)), as well as maps detailing how to get there.

Some Web sites have taken the campaign a big step further and are urging people to simulate a future facial recognition system, which some say is the next logical step in the Total Information Awareness Network, by distributing Poindexter's photograph. Should they ever recognize Poindexter in their presence, everyone from serving staff in restaurants to toll booth collectors are being encouraged to post details of his activities on the Web or even to deny him services, telling him simply that he's been identified as a potential security risk.

John Gilmore, one of the co-founders of the Electronic Frontier Foundation ([www.eff.org](http://www.eff.org)), an electronic privacy group, posted a message detailing his support for the campaign and said that he too had posted Poindexter's details because he felt "it would be good to have an early public demonstration of just how bad life could become for such targeted individuals." ♦



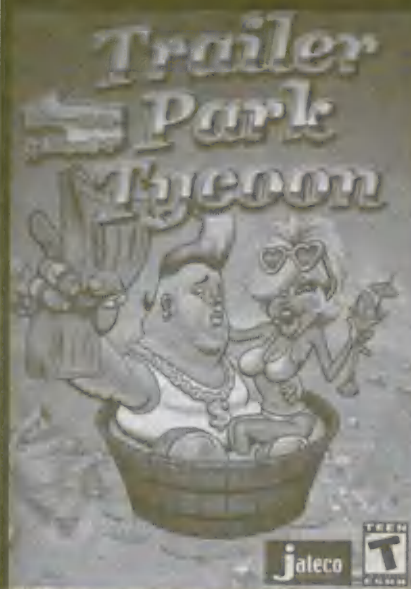
*Trailer Park Tycoon* takes the now-familiar "tycoon" model and plops it down in the "colourful" world of – wait for it – trailer parks. Yeehaw!

Each game consists mainly of placing trailers of various types in preset locations in order to attract residents (who pay you rent) and then adding amenities (restaurants, laundry facilities and so on) to keep your residents fed and entertained. You also need to add a variety of "ornaments" (stacks of tires, propane tanks, shot-up car bodies, junk sculptures, barbecue pits and other trailer-culture treasures) to each trailer's yard.

Ornaments are the key to success (and in many ways, provide most of the fun). Each resident has preferences in one or both of two "styles" of trailer-park life: Trashy vs. flashy and cool vs. old school. These two style values are mutually exclusive; that is, trashy subtracts from flashy and vice versa.

Keeping residents happy (and paying) requires that you satisfy their predilections (represented by colour-coded number values). So if Billie Joe likes old school, you keep her happy by making sure that her trailer (which includes her home and the surrounding area) has a high enough old school value.

Some trailers are specialized and come



## Pink flamingo heaven

with a high rating in one or both styles, but most are relatively low. Ornaments

are used to modify the two style values. Generic trailers are also upgradeable (to single-wide and double-wide, naturally), and these upgrades expand each trailer's yard (allowing more ornaments to modify its style values).

This is where the game gets tricky. Upgraded trailers are worth a lot more rent money, but the expanded yards may bring neighbouring trailers into style conflicts. For example, if Billie Joe's trailer is upgraded and now overlaps with Bobbie Sue's yard, and Bobbie Sue's trailer is cool, it will reduce Billie Joe's old school rating, which will make her unhappy.

As the game progresses, residents' style demands will grow, and the balancing act becomes harder if you haven't arranged your trailers properly.

### Tabloid tragedies

Goals usually consist of reaching a particular style value for your trailer park (300 trashy, say) or squeezing a certain dollar amount out of your residents before a time limit runs out.

In the end, though, *TPT* seems more like an amusement than a strategy game. Most of the enjoyment comes from the weird and wonderful characters, places, things and events that occur as you play. Tabloid headlines chart your progress, and UFO invasions, tor-

nados and meteor showers are occupational hazards.

There's also a "first-person" option that lets you take control of residents (and cats, dogs and pretty much anything else that moves). You can move them around and make them fight or be nice to others (or to themselves – which makes them line dance, sadly).

On the other hand, there aren't a lot of scenarios to play: Just four stand-alone challenges, four open-ended "sandboxes" and two "tycoon" modes (consisting of four "linked" scenarios each). The pace of the game is such that you usually don't have time to really enjoy your park or interact with the residents – you're too busy monitoring rents and style needs.

Still, the game is quite funny and will amuse those with a taste for the bizarre. ♦

## more INFO

*Trailer Park Tycoon*  
\$45 (street)  
Jaleco Entertainment  
[www.jaleco.com/trailerparktycoon](http://www.jaleco.com/trailerparktycoon)



Minimum requirements:  
Windows 98/ME/2000/XP, 450 MHz CPU (600 MHz recommended), 64 MB RAM (128 MB rec.), 16 MB Direct3D or OpenGL 1.1 compatible video card (32 MB rec.)



### 15" LCD

- \* Color LCD Display
- \* 1024x768 res.
- \* .29mm Dot pitch

**Now  
\$ 399**

### 17" LCD

- \* Color LCD Display
- \* 1280x1024 res.
- \* 3 Year Warranty

**Now  
\$ 599**

### 80Gb HD



Special  
edition  
8Mb  
Cache

**Now \$ 169**

### CDReWriter 48x16x48x



48x Write  
16x RW  
48x CDR

**Now \$ 69**

### Battery



**Now \$ 1299**

## On Sale Now



1176 Kennedy road Scarborough  
(1 Light N. of Lawrence)  
Daily 10 to 7PM Sat 10 to 5PM  
\* All Listed prices are  
for cash or interac only

**416.757.8888**

**COMPU CANADA.COM**

### ATI 8500



8500LE  
128Mb DDR  
DVI  
TV Out

**Now \$ 129**

### EPSON C42



2880 dpi  
12ppm  
USB

**Now \$ 59**

## 2.4GHz P4



**80Gb HD 512Mb**

- \* Intel P4 2.4GHz 533FSB \* 512Mb RAM \* 40x12x40 CDRW \*
- \* 80Gb H Drive \* 3.5" FD \* 64Mb DDR GeForce4 MX440 \*
- \* 10/100 Ethernet \* Sound 3D \* KB \* Mouse \*
- \* MB - 4xUSB v2.0 \* Support DDR333 \*
- \* Monitor Sold Separately \*

**\$899**

## BONUS

OS & Office Suite

- \* AMD ATHLON 1.0GHz
- \* 128Mb RAM ( upgradeable )
- \* CDReWriter & DVD ROM
- \* 20Gb Hard Drive
- \* 64Mb Video 2D/3D
- \* PCMCIA type II \* S-Video
- \* 2xUSB \* 10/100 Ethernet
- \* Sound 3D \* 56K Modem
- \* 14.1" TFT LCD Display
- \* Internal Battery & Floppy

Other Models:

**Intel P4 1.7GHz**

**Now \$ 1599**

By ANDREW MOORE-CRISPIN

While the snow is still on the ground, "snowbirds" migrate to Florida to wile away the winter season and will likely get in a few rounds of golf while there.

Those of us that are not so lucky must placate the golfing itch by hitting the virtual links. Fortunately, *Links 2003* puts its predecessors to shame and is much more like a true golfing simulation than ever before.

Where golf games have traditionally required players to hit timed button presses to make a shot (one to start the swing, one at the top of the scale for power and one on the down stroke to determine the hook or slice), *Microsoft Links 2003* simulates the back swing and down stroke using the mouse. Players pull back for the back swing, then return and pull through for the down stroke. Accuracy is determined by how close to straight up and down the mouse moves, making the game much more like the incredibly popular *Golden Tee Golf's* control scheme. If you've never seen *Golden Tee* before, just go to a bar and look for a gaggle of men swearing and hammering a trackball into submission.

# Hit the Links

## from the warmth of home

For those intimidated by the new control scheme, Microsoft Game Studios also included the easy swing, which is designed so younger kids can get in on the action, as well as the classic three-click swing from previous Links games.

However, once golfers hit a few drives with the Real Time Swing, there's no going back to the old way. There is an extensive tutorial that covers using the new swing style as well as general gameplay.

Aside from the improvements to the control scheme, other notable additions



since the last *Links* outing in 2001 are new and much improved 3D golfer animations, which add believability to the game, and a new career mode, which is fun to play through.

Also new for 2003 is an improved Arnold Palmer Course Designer, which, as the name implies, allows golfers to create courses and post or trade them on the Links Country Club Web site ([www.linksclub.com](http://www.linksclub.com)) or

through *Links* fan sites. The course designer is well featured and allows golfers to create just about any course they can imagine — whether or not it has a foothold in reality is completely up in the air. In addition to being able to create their own courses, gamers upgrading from past versions of *Links* can import courses from as far back as the 1997 version of the game.

The graphics in *Links 2003* are nothing short of spectacular. While the look and motion of the players has been greatly improved over past versions, the

courses themselves are equally impressive. The course scenery is true to life, water looks pristine, the crowd looks quite believable, even the sand bunkers show individual rake marks and footprints.

Online play is also improved in this latest version of *Links*. Golfers have the option of going head-to-head in online tournaments against up to seven others, playing the Links Tour, while the Links Country Club Web site matches gamers of relative skill in tournaments where the results are posted to the site for all to see — *Links* also incorporates e-mail tournaments, where any number of golfers can compete on or offline by automatically sending results to the tournament organizer, who in turn sends out tournament standings to participants through e-mail. ♦

### more INFO

*Links 2003*  
\$59.99

Microsoft Game Studios  
[www.microsoft.com/games](http://www.microsoft.com/games)

#### Requirements:

Pentium II 400 MHz, 64 MB RAM (for Win98/ME), 128 MB RAM (for Win2000/XP and for Course Designer), 390 MB hard drive space (950 MB additional for Course Designer), 16 MB 3D accelerator card, 4X CD-ROM drive.



# NEXT<sup>™</sup>

## WEBHOSTING

STARTING FROM  
**\$6.95**  
PER MONTH

# FREE

## 3 MONTHS

### HOSTING

ONE YEAR EQUALS 15 MONTHS  
WEBMASTERS, DESIGNERS  
CHECK OUR AMAZING  
RESELLER PROGRAM  
PROFESSIONAL WEB HOSTING

**ELOSOFT**  
online

NEXTWEBHOSTING.COM IS A  
SUBDIVISION OF ELOSOFT

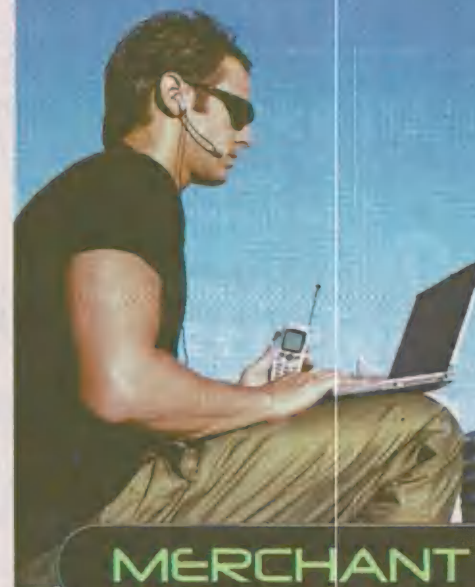
TOLL FREE  
**1.877.356.7638**  
LOCAL  
**905.760.8440**

**WWW.NEXTWEBHOSTING.COM**

Professionally Hosted Websites  
Domain Registration  
Unlimited Email Accounts  
Unlimited Hits, Transfers  
World Class Support Desk  
Same Day Set-up  
Fiber Optic OC-3 Connections  
24x7 Toll Free Tech Support  
Microsoft FrontPage 2002  
Active Server Pages  
Vbasic, Java, Perl 5  
Unique IP Address  
CGI Support  
ODBC Support  
SQL7 & SQL2000  
Real Audio / Video  
Shockwave, Flash, Quicktime  
Web Statistics by Webtrends  
Counter  
Guest Book  
WEB Board  
Form-return  
Money Back Guarantee

ONE YEAR EQUALS 15 MONTHS

# Looking for technology or computer related products?



Within minutes, the  
**CanadaComputes.com**  
Merchant Directory  
provides you with the  
local retailer you need!

## MERCHANT DIRECTORY

**WWW.CANADACOMPUTES.COM/MERCHANT\_DIRECTORY**

# Take on Tiger in PGA Tour 2003

By ANDREW MOORE-CRISPIN

While Microsoft Game Studio's *Links 2003* caters to golf sim players, *Tiger Woods PGA Tour 2003* successfully

blends the sim golf feel with slightly more arcade style gameplay and options.

*Tiger Woods 2003* uses a similar control scheme to *Links 2003*, where mouse movement is used to determine back swing and follow through, giving golfers the swing control that most preceding golf games have sorely lacked. However, this is where similarities between the two games end.

*Tiger Woods 2003* is much more about the single player experience than *Links 2003*. EA did include options for online play, but are charging a monthly server access fee for EA Sports games. A two-month subscription is included with the game. Up to four players can compete against each other online in a tournament or in stroke or match play.

The heart of *Tiger Woods 2003* is in the tournament mode, where golfers compete to earn cash to buy attribute points to progress through the different ranks (amateur, pro, champion and master). As can be expected, the purses get bigger and the competition gets stiffer as gamers progress.

Where *Links* games have traditionally taken what some would consider to be

the high road by creating golf sims as opposed to golf games, EA's *Tiger Woods* franchise has traditionally been an arcade golf affair. Not so this time around. While the console roots of the game sometimes show through despite the noticeably sharper graphics and differing control scheme (console versions of the game use the analogue control sticks of the game pad to execute the "TrueSwing"). Tiger's PC outing is a completely different game from EA's console golf games bearing his name.

That said, some elements found in console incarnations of the game are also present in the PC game. Trophy Balls, which are awarded for making a long putt, difficult chip, long drive or other more creative objectives, like your first bogey-free round or scoring three birdies in a row, are part of both versions, though in the PC game, they take a much less central role.

The Career mode in *Tiger Woods 2003* is a fun diversion, but not quite what golf sim players might be expecting. Rather than starting off with a character and building up his or her stats by earning money in tournaments, gamers play a series of practice exercises like driving, chipping and putting contests. While honing your character's skills in these contests, other golfers on the cir-

cuit challenge you to matches where your character can earn some extra cash. There are also scheduled stroke play tournaments throughout the career, but these usually only take place on the front nine of a course, and as such are a bit unsatisfying.

The in-game graphics are quite amazing and are second only to actually being on the eight included courses (including Pebble Beach and St. Andrews). The golfer animations are similarly realistic, with the golfers actually looking like they are on the course, as opposed to the photo-realistic golfers standing out from their digital surroundings, as most previous golf games have done. ♦

## more INFO

*Tiger Woods PGA Tour 2003*  
\$49.99  
EA Sports  
www.ea.com/easports



**Minimum:**  
Pentium II 333 MHz, 64 MB RAM, Windows 95/98/ME/2000/XP, DirectX 8.0, 8 MB DirectX-compatible 3D accelerator, DirectX-compatible sound card, 4x CD-ROM drive, 1 GB hard-disk space, mouse, keyboard.

**Recommended:**  
700 MHz Intel Pentium III (or AMD equivalent) Processor, 128 MB or more RAM, 32 MB T&L supported video card or greater video card with DirectX 8.1 compatible driver, 1 GB or more hard drive space.

### ORACLE @ HiTech Institute

ORACLE DBA 9i, Upgrade 8i, Developer, J-Cert, Passport  
Also offer Microsoft, Cisco, CompTia, Sun, IBM, Accpac Certification

HRDC/El funding available for qualified applicants. Placement Services available  
Registered and approved as a Private Career College. International students are welcome

**WHY TRAINING @ HiTech**

- \* Consumers' Choice 2002 Award winner
- \* Industry Experienced & Certified Instructors
- \* Small batch size for personal attention
- \* Lab Assignment Series for hands on experience
- \* Excellent Passing Results
- \* Online exam preparation
- \* Excellent course materials, Cde, & CBT Library
- \* 40% Discount on your OCP exam fee
- \* Co-op program
- \* Guide to hidden job market

**Diploma**  
Diploma in Networking (A+, MCSE CCNA, Unix Solaris) \$4499

**Diploma in Information Technology** \$8999

**Certification**  
Oracle DBA / DEV \$3999  
A+ / Network+ \$499  
CCNA \$499 / CCNP \$1999  
MCSE \$2299  
MCSA / Unix \$1599  
MCSD/MCAD/ MCDBA \$2299  
C & C++ \$999, VC++ \$999  
Java Certification \$1599  
M-Commerce \$1999  
Wireless Prog. J2ME \$999  
Office XP \$699  
ACCPAC \$499, AutoCad \$799  
Accpac \$499

**SPECIAL OFFER**  
**50% OFF**  
Only \$600  
**ADVANCED JAVA**  
JSP / EJB / UML / XML

**Mississauga** (Dundas W. & Hwy 10)  
185 Dundas St. West #600  
PH: 905-279-0123

**Toronto** (Yonge & Bloor)  
842 Yonge St. # 300  
PH: 416-513-1535

www.htinstitute.com

**ORACLE 9i**  
Oracle Workforce Development Program  
**Database Specialist Diploma** \$4500  
SQL  
Oracle 9i Database Fundamentals 1&2  
Unix  
Windows 2000 Server  
**DBA** \$3499  
SQL  
Fundamentals 1 & 2  
Performance Tuning  
**Application Developer Track** \$3499  
Intro to SQL, PL/SQL  
Program Unit  
Built-Interface App. 1 & 1  
Original Curriculum  
**40% Discount on exams**

**Network Support Technician Diploma** \$5200  
Dos  
Win 95/98  
A+ Technician  
UNIX  
MCSE 2000  
CISCO CCNA  
**MCSE \$1999**  
Server, Professional, Active Dir. Services, Network Infra.  
Design Dir Services, Design Ntwk. Infra., Design Security  
OR  
\$299 each Module  
**A+ Certification** \$499

**Travel & Tourism** \$4000  
Reservation Agent  
Ticket Agent  
Flight Attendant  
Travel Counselor  
Sales Reps

**Office Admin** \$4500  
Elementary Acc. Internet Comm  
ACCPAC general ledger & Payroll  
ACCPAC- Acc. Receivable/ Payable  
Office & Business Procedure  
Ms- Word, PPT, Excel & Access

**E-COMMERCE** \$1499  
HTML, DHTML, JAVA, Web Server, Perl & CGI

**UNIX**  
Level 1 \$399  
Level 2 \$449

**NETWORK +** \$499  
**CISCO CCNA** \$399  
**JAVA** \$549  
**C, C++** \$499

**FAZCOM TRAINING**  
301 - 37 George St. Brampton, (905) 874 3311  
www.fazcom.com

**HRDC Approved**  
El Recipients welcome  
Approved PVS  
Days/Even/ Weekend  
Classes

**CCPCC/CompTIA**  
Cisco Systems  
Microsoft

**PROMETRIC**  
Site # ON87

### PC SHOP Computers

(416) 293-8889

3833 MIDLAND AVE, UNIT 15, SCAR. (at HWY 7)  
MON-SAT: 11:00am-7:00pm  
PRICES SUBJECT TO CHANGE WITHOUT NOTICE

**FRANCHISE NOW !!!**  
FOR DETAILED INFORMATION, CALL NOW!!! 416-293-8889 OR 519-555-8833

**AMD DURON 1400G \$349**  
128MB PC-133  
32MB ONBOARD VIDEO  
40GB ATA 133 & 56K MODEM  
52X CD-ROM & 1.44 FDD  
16 BIT SOUND CARD  
10/100 NIC  
300W ATX CASE  
KB/MOUSE/SPEAKERS

**INTEL C-1.7G \$399**  
128MB PC-133  
32MB ONBOARD VIDEO  
40GB ATA 133 HDD  
52X CDROM & 1.44 FDD  
10/100 NIC  
32 BIT SOUND CARD  
300W MID TOWER CASE  
KB/MOUSE/SPEAKERS

**UPGRADE PACKAGE**  
Intel P4 1.7G/ECS P455MG \$369  
256MB PC-133 RAM/300W ATX CASE  
AMD XP1800+/ECS MB \$269  
256MB PC-133 RAM/300W ATX CASE  
HARD DRIVE  
Maxtor 40G 5400/7200 \$110/115  
Seagate 40G 60G 7200 \$115/127  
Seagate 80G 7200 \$158  
W.D. 40G/80G 7200 \$119/148  
W.D. 80/120 7200 8M Cache \$171/255  
50PCS 48X CDR \$13.99  
100PCS 40X CDR \$24.99  
MICROPHONE \$1.49  
PS/2 MOUSE \$1.25  
PS/2 KEYBOARD \$4.99  
STEREO SPEAKERS \$4.99  
CD BOX \$0.12/PC  
P4 ATX CASE, WITH 300W PS \$29.99

**MONITOR**  
17" SAMTRON \$165  
17" USED MONITOR \$89  
17" LG 700S/E700B \$175/210  
19" LG E900B \$349  
19" SAMSUNG 955DF \$349  
15" SAMSUNG 151S \$490  
17" SAMSUNG 753DF \$186.99 WITH PC PURCHASE

**AMD XP1800+ \$669**  
MSI KT3 ULTRA-2  
256MB DDR  
ATI RADEON 64MB  
40GB 7200RPM HDD  
16XDVD & 1.44 FDD  
48X16X48 CDRW  
56K MODEM  
32BIT S.C.  
300W CASE  
KB/MOUSE/SPEAKERS

**INTEL P4 2.0A \$819**  
MSI 845E MAX MB  
256MB DDR  
GEFORCE4 MX440 64MB DDR  
60GB 7200RPM HDD  
16X DVD & 40X CDRW COMB.  
1.44M FDD  
10/100 NIC  
16BIT SOUND CARD  
300W ATX CASE  
KB/MOUSE/SPEAKERS

**BRAND NEW LAPTOP**  
INTEL P4 1.7G 256M DDR MEMORY  
DVD ROM CDRW 20GB HARD DRIVE  
56K MODEM 10/100M NETWORK CARD  
IEEE 1394 FOR VIDEO EDITING  
15" LCD MONITOR  
**\$1,389.99**  
CAN U IMAGINE? SO CHEAP?

### 30% Off All Microsoft .NET Books

Only at

## Pagebytes Computer Books

We can Satisfy All your Book needs Promptly

305 Lakeshore Road East, Mississauga

**905-891-2112**

WWW.PAGEBYTES.COM  
pagebytes@sympatico.ca

# Canadian-made RPG destined for success



A long, long time ago, in a galaxy not so far away, video game publisher LucasArts began creating *Star Wars* video games to suit all kinds of players, be they fans of simulations, strategy games, action/adventure hybrids, racers or 3D shooters. So, why have role-playing gamers been left out in the cold? That is, until now.

*Knights of the Old Republic* will be the very first video game RPG set in the *Star Wars* universe.

Not surprisingly, LucasArts turned to Edmonton-based BioWare – the makers of such critically acclaimed and successful RPGs as the *Baldur's Gate* series and more recently, *Neverwinter Nights* – to create the ultimate *Star Wars* role-playing game experience.

TC! made the trek to the capital of Alberta to spend some serious hands-on

time with the ambitious and promising *Star Wars* game, due out on the Xbox this spring.

*Star Wars: Knights of the Old Republic (KOTOR)* takes places roughly 200 generations, or about 4,000 years, before the events of the *Star Wars* films. It's a time of epic conflict between Jedis and Siths – and the good guys ain't winning.

This is where you come in. But the path you choose is dictated by your actions; by the end of the game, you may be heroic and save the Republic or become an evil force within the galaxy. Like most RPGs, players can spend time at the start of the game creating their custom character or they can simply jump into the game with a few button taps.

*KOTOR* is a party-based game, so other allied characters – be they humans, aliens or droids – will join the travelling troupe throughout this 50+ hour adventure. In fact, the many sub-quests will vary depending on the members in your party, as will the dialogue trees, story twists and cutscenes. This makes the game much more replayable than most.

And talk about a mammoth undertaking – the game features 10 worlds to explore, multiple mini-games, more

than 100 pre-rendered and in-game cutscenes and over 12,000 lines of spoken dialogue (with lip-syncing). There's even a significant love interest in the game, but BioWare won't reveal any details on that just yet.

The central hub in the game is Ebon Hawk, a huge Millennium Falcon-esque space ship that serves as a place to meet other NPCs (non-player characters), swap members of your party, get assignments and begin traveling to the various planets.

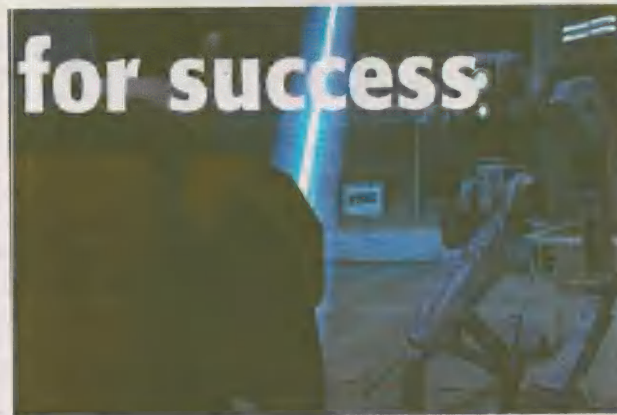
While exploration and puzzle-solving are an integral part of the gameplay, the combat is what will keep most console players glued to the tube until the wee hours of the morn. The battle system is turn-based, but the player has a few options on how to go about fighting enemies. One way is equip your party with weapons or Force powers (there are 50 of these in the game) and begin targeting baddies one by one, almost in real-time. Those who prefer strategy and tactics can pause the game and assign orders to their party before resuming. As

a neat twist, the combat goes into slow-motion when the player needs to bring up the action menu to swap weapons, heal characters and so on.

*KOTOR* is played from a third-person perspective – which is ideal for a party-based game – and visual touches such as swooping camera angles and plenty of cut-scene sequences help reinforce the cinematic experience.

Both the indoor and outdoor areas are highly detailed, with an effort made to make the player feel he or she is walking around in a living, breathing world.

Role-playing game fans and *Star Wars* enthusiasts alike should easily find solace in *Knights of the Old Republic*. Not only is it the most ambitious project LucasArts and BioWare have undertaken, but it may very well be their finest. ♦



## DECEMBER'S PHOTO SPREE WINNER



### THE WINNER:

Congratulations to Wayne Harvey whose image titled "Blurred Skaters" won our fourth Photo Spree contest. Wayne receives a Lexmark Z65p Photo Jetprinter for his efforts.

The image was shot using a Fuji S602 digital camera using a 1/1.8 shutter speed to blur the fast moving skaters while exposing the dark background.

We were faced with another difficult decision in choosing the winner from the more than 40 entries for the Nighttime Photography Photo Spree assignment.

Again, congratulations Wayne Harvey for submitting the winning image.

Toronto  
computes!

PRESENTS ITS 5TH Bi-Monthly

PHOTO SPREE

### THE CHALLENGE:

Take a picture of Winter Sports

# WIN!

LEXMARK

Passion for printing ideas™

### Lexmark Z65p Photo Jetprinter

Designed for photo enthusiasts, the all-new Lexmark Z65p Photo Jetprinter makes it easy to print colour photos that rival photo lab quality. The sleek Windows-based Z65p features four on-board camera card readers, dual paper trays and vivid 4300 x 1200 dpi output. Valued at \$249.

**THE RULES:** You must use a digital camera to capture the subject. Work can be submitted via e-mail (contest@tcp.ca). Accompanying your photo should be the make and model of the camera you used, the names of any software you used to modify the image and, if possible, the 1/stop and shutter speed you used to take the photo.

Submit your photographs, along with the information from the form below, by March 7th, 2003. You can submit up to three photographs, all of which must be accompanied by a submission form. Entries must be submitted via e-mail. Files should be no bigger than 500 KB. One photo per e-mail.

**Contest Rules:** Prizes must be claimed by April 18th, 2003. Winners must provide valid identification upon claiming prize. The prizes awarded are not transferable and cannot be redeemed for cash. To enter and to be eligible to win, persons must be residents of Canada, and not employees or be domiciled with an employee of Canada Computes!, its affiliate companies, or advertising or promotional agencies. The winners will be selected by Toronto Computes! on March 14th, 2003 from among all eligible entries received on or before contest close date. Winners will be contacted by telephone or e-mail. In the event that they cannot be contacted within the first week following the contest another entrant will be selected. All entries become the property of Toronto Computes! and may be used in subsequent advertisements for the contest. All entries must be submitted by their artist and must be original work.

Toronto Computes!'s 5th Photo Spree contest form. All submissions must contain this information

Deadline: March 7th, 2003

Name: .....

Address: .....

E-Mail: .....

Phone Number: .....

Age: .....

Occupation/School: .....

Title of Entry: .....

Camera Used: .....

Software Used: .....

# Do you have a Need for Speed?

By NESTOR GULA

The first game I ever played on a PC computer, a 386SX16 by the way, was *Need for Speed* – the first version of that game, as I recall. You would steer, accelerate and brake using the keyboard, and the graphics were atrocious. It was not a pleasant experience.

Fast-forward about 10 years, and I'm playing *Need For Speed: Hot Pursuit 2 (NFS)* – the latest in the line of this stalwart computer game. You still get to drive exotic cars most could never afford as recklessly as you would ever dare on impossibly twisty highways, dodging innocent traffic and police. The exotic cars are many here – Ferrari, Lamborghini, Porsche, Jaguar, Aston Martin, BMW and the like. There are a few "semi-affordable" cars, namely the Corvette Z06, Dodge Viper GTS and Ford SVT Mustang Cobra R. There are even cars not available in North America, like the Vauxhall VX220, Opel Speedster and the Lotus Elise.

The more cops you avoid and the faster you go in a race, the more points you amass and that, in turn, unlocks cars and a bevy of tracks.

In the Hot Pursuit mode, players compete with other AI cars and try to escape from police. You get points by shaking the police off and finishing ahead of the competition. You get more points if you take the advanced level and use manual shifting. In the Championship mode, players compete with other cars in a series of races for the World Championship –

there are no police here.

I used a Logitech Momo Force steering wheel and the feeling was fine. I found that setting the game to an advanced level gave me much better control over the car and a good game experience. An irritating fact about the AI cars is that they seem to always come off best when you are involved in an altercation with them. Both you and the other car will go into a spin, and that car's forward pace will not be affected, while you lose valuable seconds. As well, the cops are biased. If you blow past a radar trap side-by-side with an opponent, the cops will target you for pursuit (this involves them bumping your rear quarter panel and sending you into a spin) and let the opponent go on their merry way.

A great addition to this franchise is the "Be the cop" feature. In the Single Challenge mode, you can be the pursuer chasing after the cars that dusted you in previous races. This is fun because you can call on backup, set spike strips, set up road blocks and even call for helicopter support.

The latest *Need for Speed* is a hoot. Although it is highly unrealistic, especially in terms of the damage that these fragile exotic cars suffer while bumping with sturdy police cars – this unrealism does not detract from the sheer joy of driving with reckless abandon, throwing caution to the wind. ♦

## more INFO

**Need For Speed: Hot Pursuit 2**  
\$53.99  
Electronic Arts  
www.ea.com



**Requirements:**  
450 MHz Intel Pentium III or 500 MHz AMD Athlon processor or higher, Windows 98/ME/2000/XP, 128 MB RAM, 4x CD-ROM, 1.2 GB free hard disk space, Direct3D capable video card with 16 MB memory and DirectX 8.1 compatible driver, DirectX 8.1 compatible soundcard, keyboard and mouse

CYBERPLAY

# Cisco Training

## WinNET Produced 18 CCIEs



**Tejas Suthar**  
CCIE # 8423, Telus

"Without instructor Harith's commitment, support and encouragement this great achievement in my life would have only been a dream."



**Ravi Chandran**  
CCIE # 8671, Telus

"Harith, you have been an inspiration and a valued role model in my career. Your interest and motivation were my driving force behind the CCIE designation that I hold today."



**Terence Summerville**  
CCIE # 8927, Intstream

"I would like to express my deep appreciation to WinNET Systems for their help and encouragement in obtaining my CCIE certification."



**Virgilio Santos**  
CCIE # 9454, Bell Canada

"WinNET Systems has greatly exceeded what I have expected a training school to provide its students and for dedication I am truly grateful."



**Oswald Fernandes**  
CCIE # 9753, Bell Nexia

"The secret to success in this challenge are hard work, perseverance, focus and confidence. With these qualities and WinNET Systems's support I am happy we have achieved this challenge together."



**Usman Mahmood**  
CCIE # 9900, Next Innovation

"No doubt! WinNET is the best institute to offer CISCO training. Harith is not only an instructor but also a CISCO GURU."



**Nigel Maharaj**  
CCIE # 9916, IBM Global Service

"I have been studying CCIE for 2 years and got nowhere. After Harith instruction I was able to do very complex labs. Harith CCIE course was invaluable."



**Shane Lai**  
CCIE # 10214, ICS

"I started with CCNA @ WinNET and continued through CCIE. I put a lot of hard work and dedication into it, but without Harith's guidance, help and inspiration it wouldn't be possible. Thank you WinNET."



**Kamran Adil**  
CCIE # 10373, Bell Nexia

"I think WinNET's most valuable contribution to my CCIE certification was Harith's teaching and guidance, without them I wouldn't have achieved this goal. WinNET did an excellent job of preparing and inspiring me to take this significant step in my career."



**Sarumathy Vijayakumar**  
CCIE # 10385, Cyber Canada Inc.

"I would like to thank Sam and Harith for the outstanding training and education that I received at WinNET Systems. WinNET and its staff go beyond expectations to ensure that their students are taken care of."



**Hans Ma**  
CCIE # 10424, Canadian Automobile Association (CAA)

"I had a wonderful experience at WinNET Systems Inc. I believe it carried me through my Cisco Certifications from CCNA through CCIE. I wish I could express my gratitude in these few lines. Thank you WinNET!"



**Raj Thava**  
CCIE # 10425, PCC

"WinNET has made such a positive difference in my life, it was probably the difference between success and failure. There are endless good things I could say about WinNET and Harith. In short WinNET is the best!"



**Ganesh Shammugalingam**  
CCIE # 10682, AT & T

"I would just like to say that my decision to attend WinNET CCIE course was one of the best education decisions I could have made. WinNET provided me with what I needed to make it in the competitive Information Technology marketplace."

**Mehrdad Mostafaei**  
CCIE # 10383

**Giuseppe Giorgio**  
CCIE # 10422, Next Innovation

**Ali Khatibi**  
CCIE # 10423, Ericson

**Lili Zhao**  
CCIE # 10252, Inspired Contact Center

## Visit Our Lab.....

- Over 100 Cisco Routers - 7500, 4500, 3600, 2600 & 2500
- ATM Switch and Catalyst 3550
- ISDN lines, ADSL Line & Frame Relay Circuit
- Catalyst 5500, 5000 & 1900 Switches

**For CCNA, CCNP, CSS, CCIE,**  
Microsoft, UNIX, Check Point & Other IT training needs, contact:

**WinNET SYSTEMS**  
HI-TECH TRAINING & CONSULTING

**TORONTO**  
1200 Eglinton Ave. East  
Suite 100, Toronto  
(Don Mills & Eglinton)

**Tel: 416-447-TEST (8378)**  
**www.winnetsystems.com**

**MISSISSAUGA**  
918 Dundas St. E  
Suite 206, Mississauga  
Tel: (905) 949-TEST (8398)

The courses are designed by



**HARITH**  
Double CCIE - R/S & Security  
B.Sc. Eng., MIBM, CNE, MCSE, CCNP,  
CCDP, Cisco Security Specialist  
& Cisco Voice Specialist  
MS Certified Trainer

Configure your system online

## GAMING

**TRITON BANSHEE X3:**  
Enermax Case w/350W Dual Fan PSU  
AMD Athlon XP 2600+ Processor  
ASUS A7N8X Motherboard with nVidia nForce2 Chipset  
512MB PC-2700 333MHz DDR RAM  
Panasonic 1.44MB Floppy Drive  
60GB Western Digital 7200RPM Hard Drive  
LITE-ON 48x24x48 CD-RW w/Nero CD Burning software  
LITE-ON 16x/40x DVD-ROM  
ATI Radeon 9700Pro w/128MB DDR DVI Video Card  
Onboard 5.1 Sound Card/FireWire/LAN/Serial ATA  
MS Internet Keyboard and IntelliMouse  
MS Windows XP Home Edition w/License and CD  
Triton Total Recovery CD  
TOLL FREE Technical Support  
1 Year Parts and Labour Warranty

**\*2,060**

TEL: (905) 472-9622

**TRITON COMPUTERS**  
www.tritoncomputers.com

## Matrox RT.X100 System

**TRITON MEDUSA M60**  
Enermax FS-710 Case w/350W Dual Fan PSU  
Intel P4-2.4 GHz 533MHz FSB w/512K L2  
Intel DB45GBR2 Motherboard  
512MB PC-2700 333MHz DDR RAM  
Panasonic 1.44MB Floppy Drive  
60GB Western Digital System Drive  
120GB WD A/V Drive w/8MB Cache  
80GB WD Export Drive w/8MB Cache  
Pioneer DVR-A05 DVD-R/CD-RW w/software  
Matrox Millennium G550 w/32MB DDR Video  
Onboard 5.1 Sound Card & 10/100 NIC  
MS Internet Keyboard and IntelliMouse  
MS Windows XP Pro w/License and CD  
19" Samsung SyncMaster 955DF Flat CRT  
Altec Lansing ATP3 Speakers  
5 Blank DVD-R Media, 1 Blank DVD-RW Media  
Adobe Premiere 6.5 Installed & Configured  
MPEG2 Encoding, RT Chroma Key, RT Effects

**\*4,749**

Also Available ▶ Pinnacle Pro-ONE RTDV  
▶ Canopus DVStorm2

22526614

# FREE!

Get a **FREE Digital Directory** by subscribing to **Toronto computes!**

The Digital Directory is a compilation of all Canada Computer Paper's advertisers-exclusive suppliers to the Canadian high-tech industry. Included is a guide to industry resources, knowledge and factoids. Even valuable coupons for your home, office or workshop! Receive your free Digital Directory by becoming a NEW subscriber!

Fill out the form below and mail back with your payment, to: **SUBSCRIPTIONS!**

625 Church St., Suite 600  
Toronto, ON M4Y 2G1

**PRICE:**

**\$21.39, includes taxes, shipping and handling.**

## Toronto computes!

The Technology Lifestyle Magazine

**Fax your form, toll free, to 1-866-263-0899 or call, toll free, 1-800-465-3517. E-mail us at [subscriptions@tcp.ca](mailto:subscriptions@tcp.ca) or apply online at [www.canadacomputes.com](http://www.canadacomputes.com)**

For US Subscriptions, please send \$75 CDN. For International subscriptions, please send \$135 CDN.

**YES! I will receive a FREE Digital Directory with my new subscription to Toronto computes!**

Name TCF0300 \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ Prov. \_\_\_\_\_ Postal Code \_\_\_\_\_  
Email or Telephone Number \_\_\_\_\_  
**PAYMENT OPTIONS:**  
☐ VISA ☐ MasterCard ☐ Cheque ☐ Money Order  
Credit Card # \_\_\_\_\_ Expiry date \_\_\_\_\_  
Signature \_\_\_\_\_

**CONVENIENT SUBSCRIPTION OPTION:**

☐ **NO MORE RENEWAL NOTICES!** Please don't send me any renewal notices. I will receive one annual invoice at the most current rate.



CYBERPLAY



## Battle at Procyon continues adventures of Jim Hawkins

By CHRIS TALBOT

The newest Disney Interactive title, *Treasure Planet: Battle at Procyon*, developed by Vancouver's Barking Dog Studios, continues the adventures of Jim Hawkins, the main character in the recent Disney animated flick, *Treasure Planet*. However, this computer game isn't kids' play; it's a serious real-time naval strategy game that can be played by people of all ages.

The story takes place five years after the adventures in *Treasure Planet*, and Jim is now at the end of his schooling as a cadet in Her Majesty's Royal Navy. The game begins during the graduation exercises of Jim's class, where Jim and his fellow grads must prove what they have learned during their time at the academy (which is learned by taking the basic and advanced tutorials, of course). The exercises are rudely interrupted by a pirate attack, and Jim must intercept the pirates and fend them off. Simple enough.

Beginner real-time strategy (RTS) players will probably find the ease and simplicity of the point-and-click interface to be an excellent introduction to RTS games. Commands are all given through the use of the mouse, so there's no need to worry about complex keyboard commands. For instance, moving a ship is as simple as pointing the mouse at an area in the Etherium (space) and clicking the left mouse button. Players move the camera by holding down the right mouse button and moving left or right to pan and forward and backward to zoom in and out. Moving the mouse over an enemy ship will change the mouse icon to a target and a simple left mouse button click will give the order to fire on the ship.

The bottom quarter of the screen is taken up by command buttons. Clicking on any button will issue the appropriate command. This control panel is also

where players can access the map showing the area around Jim's ship (or fleet).

Speaking of the ships, they are rendered in 3D and look quite good. Animations are smooth and fun to watch. However, the game is played out in 2D. Movement through space is only on the X and Y axes (I haven't seen *Treasure Planet* yet, but I've been assured it's this way in the movie — also, it's simpler for beginners if they don't have to worry about attacks from above or below).

Advanced players might find the game to be a bit too simple, but it's still good for a few hours worth of fun. The game gives explicit directions to accomplish goals and there is always a compass just below the ship that points in the direction you have to go to complete the next goal in any given mission. In that way, the game baby-sits players, which might get a bit irksome for experienced RTS gamers. However, the naval battles are fun to play, so it's worth overlooking *Battle at Procyon*'s attempts to satisfy RTS newbies.

Overall, the game is best suited to younger gamers with an interest in tactics and strategy or to RTS gamers who just can't seem to remember bizarre or complicated keyboard commands. Simple to install and easy to learn to play, it's worth joining Her Majesty's Royal Navy in *Treasure Planet: Battle at Procyon*. ♦

**more INFO**

*Treasure Planet: Battle at Procyon*  
\$29.99  
Disney Interactive  
[www.disneyinteractive.com](http://www.disneyinteractive.com)

**Requirements:**  
Windows 98/ME/XP, Pentium II 450 MHz processor or faster, 64 MB of RAM (128 MB for Windows XP), 750 MB of free hard disk space, CD-ROM drive, 16-bit DirectX 8.1-compatible soundcard, 16 MB video card with 3D acceleration

EVERYONE  
ESRB

DIGITAL

MATRIX

A CANADA COMPUTES PAPER PRODUCT



Get a free copy

of Digital Matrix: Roadmap to  
Digital Photography and Video



Request your free copy at\* [www.canadacomputes.com/digitalmatrix](http://www.canadacomputes.com/digitalmatrix)  
or complete the following form and mail to **Digital Matrix** 625 Church St  
Toronto Ontario M4Y 2G1

☐ Yes I want to receive a free copy of Digital Matrix

Name \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ Province \_\_\_\_\_ Postal Code \_\_\_\_\_  
Phone \_\_\_\_\_ E-mail \_\_\_\_\_

\*Copies mailed May 2003

Information

# Symptoms of involuntary multi-tasking

Sharlene Myers

At Play

I suffer from multi-tasking. In spite of its regular appearance in help wanted ads, I'm convinced multi-tasking is not a helpful quality. I'm compelled, while working, to switch between programs to check my e-mail or my calendar in case I've missed something. If a question, however unrelated to what I'm doing, pops into my head, I face an uncontrollable urge to pop onto the Web and research the answer, right this minute. In fact, I've been meaning to find out ...

Oops. See what I mean? It's a habit I keep meaning to break, and maybe I should have made it a New Year's resolution, but ... Well, I just spent the last 20 minutes looking up the current wisdom on keeping New Year's resolutions and ... need I say more?

The trouble is, for me, multi-tasking is

not doing a number of things at once, but rather leaving one thing unfinished to do another and then either worrying about what else I should be doing, or forgetting what I was doing in the first place.

It's also a habit that isn't really very game-compatible. Most games take over the whole computer. What if I'm playing and someone is trying to message me, or sends me an e-mail and is waiting anxiously for my reply?

If I desperately need to look something up online while I'm playing, I have to quit the whole game, open up a Web browser, do the search, then start the game up all over again. I may have to set up a home network and keep two computers on my desk, just to get around this problem.

This came to light recently while I was playing *Tennis Masters Series 2003*. I've watched some tennis on television occasionally, and even hit a ball around a court a few times, but it wasn't until I started playing my first exhibition match on the PC that I realized I know nothing about tennis. Though I was sure I could find out everything I needed to

know online, and in spite of the fact that it would have given me a chance to check my e-mail, I was reluctant to exit the program.

The manual helpfully points out that the game gives me the choice of four different serves, which can be varied by the level of power and precision I put behind them. The trouble is, I have no idea of the difference between these types of serves and how the power level, for example, might affect them. Plus, which might be the best serve to use against which of the three playing styles?

To be fair, there are some brief explanations and "coach tips," but most of my serves are still only guesses. I figured if I varied them every now and then, I might keep my opponent on his toes. Well, that's the theory. In reality, I think I've only had an opponent miss one of my serves. Needless to say, I haven't won a match yet.

Incidentally, while I was looking through the manual, I noticed the following: "If you or your child experience any of the following symptoms: Dizziness, blurred vision, eye or muscle

twitches, loss of consciousness, disorientation, any involuntary movement or convulsion, while playing a video game, IMMEDIATELY discontinue use and consult your doctor."

Wow. I think it goes without saying that if I lost consciousness I would immediately discontinue playing. But what I'm wondering is if these symptoms can escalate, because I'm pretty sure I've been experiencing involuntary muscle twitches. How else can I explain the slow motion replay that shows my player actually ducking away from the ball? Or the one where the ball is heading toward one corner of the court and my player is running in the opposite direction? Or the occasional quick swipe of the racquet through the air in spite of the fact the ball is clearly on the other side of the net? Some sports programs compile a weekly montage of sports bloopers for the entertainment of their highly skilled remote control wielding audiences. Maybe I should send them my clips.

I'll do that right after I look up "tennis rules and strategy" online. And check my e-mail. ♦

## IT Skills Shortage

Help fill the  
**gap!**

In 2002, Ontario will add **38,000** new IT jobs but **10,000** may go unfilled due to a **skills shortage**.  
Humber College offers the programs you'll need to fill the gap! Full & part-time programs available.  
\*ITAC study, May 6, 2002

- Network Administration (A+, Net+, MCSA)
- Network & Business Administration Professional (ITP-Information Technology Professional, 3 month work term)
- Oracle 9i DBA
- Internet Software Development (Java/WebLogic or Java/Oracle or .NET Solutions)
- Cisco CCNA
- Sun Java
- J2EE Enterprise Accelerated Career Plan
- Microsoft .NET Accelerated Career Plan
- MCSA
- A+

INFO SESSION - CHECK THE WEB!



**HUMBER**  
School of Information  
Technology

416.675.6622 ext. 4937

[www.it.humberc.on.ca](http://www.it.humberc.on.ca)

**Certix college**  
LIMITED

previously known as

**Certification Express**



Regd & Approved as a Private Career College under  
PCC Act. Official Comptia(A+) & "Microsoft Certified Partner"



**MCSE/MCSA/MCDBA/A+/CCNA/UNIX/JAVA**

Actual Cases: Karen W: Zero background + MCSE w/Us >90K job, Kevin P(IBM), Boris P.  
(ING Bank >65K) Tony T. (100K), Gul S ex Welfare...now IT job with our help.

**NEW \* JOB Chances USA \* For all MCSE's \***

**(Be a Hand Crafted Confident Professional, Not a Mass Lectured Novice)**

**"ONLY"**

**One On One Explanations + Topic by Topic +  
Unlimited Time & Hands on = 5th Year of 99%  
Exam by Exam SuccES**

All Instructor Lead w/Unlimited Hands On/  
Flexible Timings/On Yonge/Sheppard Subway  
Exam Provider Partners: Microsoft/Cisco/  
Certified Internet Webmaster/A+  
Helping Immigrants. EI Support  
([www.certix.com](http://www.certix.com)) [tony@certix.com](mailto:tony@certix.com)



Toronto: 45 Sheppard Av. East, #317, (Yonge/Sheppard Subway). Tel: 416-223-2220  
USA: 1372 Peachtree St. #108, Atlanta, GA 30309. Pb: 1-866-MY-CERTIX

To place an ad or request more information, please send an email to [adclass@tcp.ca](mailto:adclass@tcp.ca) or call Donna Eng at (416) 923-7100 ext 1206. Out of Toronto please call 1-800-465-5517.

## BUSINESS ACCOUNTING

NOBEL & ASSOCIATES INC. Small Business Accounting, Bookkeeping & Tax Preparation (416) 876-8993.

## COMPUTERS

DEAD PENTIUM LAPTOPS WANTED Fair prices paid. Email [trevortas-man@hotmail.com](mailto:trevortas-man@hotmail.com)

USED LAPTOP FOR SALE, WARR, Lowest price. CPQ Tech repair to component level (416) 937-1537.

LAPTOPS NEW & USED, Used Desktops, Monitors, 17" - 21" from \$89 [www.LessLaptop.Com](http://www.LessLaptop.Com) 416-401-8866.

QUALITY USED LAPTOPS / NOTEBOOKS with warranty (905) 470-1857

## HARDWARE

COMPUTER SYSTEMS, PARTS: Main Boards, CPU, H/D, Monitors 14" \$10, \$15" \$50, 17" \$90, Speakers, (416) 661-7211.

GINETIX Computer Clearance Centre Servicing \$9.99 [www.jupitercomputer.com](http://www.jupitercomputer.com) 905-848-3477

## Refurbished Sun microsystems

• Sparc 5, 10, 20  
• Ultra 1, 2, 5, 10, 30 & 60 416-523-8324  
• E 150, 250, 450 & E220, 420  
• Sun Monitors 15", 16", 17", 19" & 20"  
• Memory, Hard Drive & CD ROM reader  
[www.microprocanada.com](http://www.microprocanada.com) 416-523-TECH (8324)

SONY CLIE COLOUR, ext.wty, 2 cradles, case, keyboard. Like new \$450 (value \$900) 905-770-3469.

SONY PLAYSTATION & PS2 MOD chips installed, from \$40. full Guarantee. Tel: (905) 947-4624.

TRADE-IN your old CRT monitor for a new LCD. Get a credit on your trade-in monitor, up to \$80, towards the purchase of a new LCD monitor. Visit us at [www.svsselectronics.com](http://www.svsselectronics.com)

## INTERNET

SAVE! \$9/MTH. UNLIMITED INTERNET ACCESS, Web Hosting, Spidercom Corp. @ 416-657-0908. 146 Vaughan Road.

## LEGAL

LEGAL HELP: % basis, insurance specialist, quick settlement, more \$ 4 U, (416) 699-5000 David Smith.

## PC COMPUTERS

### FEBRUARY SPECIAL'S

**DESKTOP PC'S (Refurb. Like new)**  
P186, 32MB, 2.1GB, 349  
PI 350, 64MB, 8.4GB, CD, SMD, USB \$149  
PI 350, 64MB, 8.4GB, CD, SMD + 17" SVGA \$249  
C2, ERON 400, 64MB, 4.3GB, CD+15" SVGA \$169  
PI 400, 64MB, 8.4GB, CD, SMD, USB \$179  
PI 450 & up from \$279  
Notebooks from \$149  
Laser Printers from \$149  
**MONITORS (Refurb. Like new)**  
15" From \$49 Compaq, HP,  
17" From \$89 DELL, IBM,  
20" and up from \$149 & NEC  
Call for other configurations

### DSL Computers & Electronics

5200 Finch Ave. East Mon-Fri  
Unit 107, Scarborough 10am to 7pm  
(Finch & Middlefield) Saturday  
Phone: (416) 335-5126 10am to 5pm

## PRINTERS

HP Laserjet 3/3p 99.95, 3D 179.95, 451 299.95, 4+ 335.00 6MP 375.95, down-town Toronto (416) 977-3331.

LASERACE ENTERPRISES Laser Printer Repairs Sales & Service (905) 595-0332 [www.laserace.com](http://www.laserace.com)

NEW HP LaserJet 2200dn. Street \$1769. Ask \$900. Details, Bill, 905 528-5619 aft 7:00.

LASER PRINTERS & Toner Cartridges Onsite & Depot Service Supplies & Accessories Refurbished Printers Brampton Technology Services 190 Wilkinson Road, Unit 9 Tel: (905) 796 5488

## REPAIRS

### S.C.E. REPAIRS

• Specialize in big MONITORS  
• Printers, PC, MAC, Copier & FAX  
• 30yr professional experience  
• Free estimate & the best price  
Sale: CD/DVD/CR-WR \$20/45/55  
HD: 4G/8G/10G \$40/65/75  
Monitor 14"/15"/17"/20"  
\$20/50/95/199  
**905-305-1205**  
825 Denison St. Unit 25  
[www.suncomputers.ca](http://www.suncomputers.ca)

## SERVICES

#1 DATA/PASSWORD RECOVERY, BACK UP CLONING, NETWORK & OTHER SERVICES 416-636-8858 Computer Datatnet

15 YRS PC-HELP! Solve/Teach: all soft/hard/net probs on-site, low \$, (416) 699-5000 Bob Davis.

A1 WEB PROGRAMMING ASP/PHP/SQL Database. Best Rates. Call Mike 416.888.8409.

ACEME Laptop sales/service NW/SW/HW repair to component level, Ssave, Mark 416 412-7330.

ACE WEB PROGRAMMING/UPGRADES [html/js/cd/php/perl/mysql](http://html/js/cd/php/perl/mysql) & more [www.ACEinTO.com](http://www.ACEinTO.com) 905.851.0357

AFFORDABLE Hardware/Network/Software/Internet Services. 416-636-8398 or e-MyComputer.com

AFFORDABLE HIGH SPEED WEB HOSTING [www.multiwebhosting.com](http://www.multiwebhosting.com) (416) 821-7801.

Affordable WEB DESIGN [www.WebLineOnline.ca](http://www.WebLineOnline.ca) Call Alex (416) 631-8404

APPLE POWERBOOK REPAIRS (Wallstreet, Lombard, Pismo, 1400), broken screen, drops (416) 977-3331.

## Business Data Solutions

Database Design, Programming, Maintenance & Up-sizing  
Call us or visit our website to arrange a free evaluation of your needs  
416-516-6911 1-866-506-3684  
[www.businessdatasolutions.ca](http://www.businessdatasolutions.ca)

BIZ & HOME PC/MAC help @ your Home/Office -Win95/98, MsOffice, AutoCAD, Net Call Tim 384-6467.

C&C COMPUNET Onsite Service PC Repair/Upgrade/Virus Scan Network Solutions Cable Running and Repair

**WEB Design & Hosting**  
Flash animation, Dynamic interactive pages, E-commerce, Database backend. Visit [www.Compu-IT.ca](http://www.Compu-IT.ca) E-mail: [sales@compu-it.ca](mailto:sales@compu-it.ca) Questions? Call 905 281 2500

Phone Line Relocated/Repaired Onsite Maintenance Training Onsite Emergency Response 416-691-2301, 416-858-0751

CABLING INSTALLATION for home & office. Call 905-770-5710 [www.connectivityshop.com](http://www.connectivityshop.com)

COMPUTER REPAIR: HOME & BIZ Build, Repair, Upgrade and Support Call Mike: (416) 494-3263 cell: (416) 994-4729

COMPUTER REPAIR, home-biz network, server, desktop, internet, antivirus. 10y exp, all prob on-site, low \$ Call Milan@416.876.4487

COMPUTER REPAIR, Network Web Design, On Call Help 1-866-769-9900 [www.3tara.com](http://www.3tara.com) 905-456-6560.

DATA RECOVERY from any bad Hard Drives. System Recovery. PC Repair and Networks. Low prices. 416-762-0801

KEN THE COMPUTER DOCTOR House calls for PCs. DOS and Windows repair. East Toronto thru Oshawa areas. Cell: 416-464-1833.

LOWEST PRICES: Design, Development: Software, Database, Web (optional free), [www.topsbiz.ca](http://www.topsbiz.ca) or Call: (416) 661-7452.

ONSITE PC/MAC SERVICE, Installation, Troubleshooting, Networking, Tutoring Sam 416-829-9635

ONSITE PC/NETWORK/SERVICES For Home/Commercial. 905-816-0100, 416-579-5731. [www.FTMCOM.com](http://www.FTMCOM.com)

## On-Site Services

Pay When Issues Gone!!!!  
Hi Computers  
2190 Warden Ave (Sheppard, HW401)  
Networking  
Installation - Troubleshooting  
PC-Repairing - Upgrading  
Internet Sharing - Email  
Rogers / Sympatico / TSN / Routers  
Business Maintenance Package  
From \$25/hr In-Store Services  
From \$35/hr On-Site Services  
Microsoft Certified 416-490-8868  
Professional 416-457-3668

## SKILLBUILDERS

COMPUTER PRODUCTIVITY SKILLS TRAINING  
Onsite & Classroom Training for individuals or groups  
Many courses available, call: 416-784-4134  
OFFICE, COMPUTER SKILLS, WEB DESIGN, PROJECT 2000, GOLDMINE A+ CERTIFICATION, CONSULTING  
[www.lmsystems.com](http://www.lmsystems.com)

## Professional

## Web Design

Database Service  
e-commerce  
Graphic Design  
and more

[www.irondeco.com](http://www.irondeco.com)  
416-505-3973

## Compatible Toner Cartridges

For Printers, Photocopiers, Faxes, Drum Units  
Excellent Results  
Every time you print  
Save more than 40%  
Call for prices and free delivery  
**Laser Dina Charge,**  
13 years in business

Print Plot 43, Tuscan Blvd.  
3818 Lawrence Ave East, Vaughan, ON, L4K 5J2  
Scarborough ON M1R 2Z8 Tel: 366-302-4290  
Tel: 416-517-0231 Toll Free: 1-877-448-1339

## WEB HOSTING

From \$1.59/mo  
■ 100MB Space  
■ 5GB Bandwidth  
■ Perl PHP MySQL SSI  
■ FrontPage2002

[www.long4net.com](http://www.long4net.com)

**ML3 STUDIOS INC.**  
Web & Graphic Design  
Logos Banners Corporate ID  
Web Hosting Photography  
Computer Sales/Service  
**905.660.3230**  
[www.ML3STUDIOS.COM](http://www.ML3STUDIOS.COM)

PC, LAPTOP Hardware/Upgrades/Repairs. [www.geocities.com/sysmatic1](http://www.geocities.com/sysmatic1) or (416) 882-4210

## DO YOU TALK OVER THE NET?

**\$76/-**  
including  
shipment  
in Canada

MEGALITH'S SOUND Bullet  
Automatically switches-over your PC audio, to your phone-set, upon lifting receiver!  
No Drivers or Software to Install  
[www.MEGALITH.NET/SBULLET.HTML](http://www.MEGALITH.NET/SBULLET.HTML)  
SBULLET@MEGALITH.NET  
1-877-MEGALITH  
Resellers Invited!

Hard-to-find  
parts,  
cables,  
adapters,  
connectors,  
&  
accessories.

Email: [sales@mycableshop.com](mailto:sales@mycableshop.com)

Toll Free:  
1 (866) 449 4498

mycableshop.com

## Novatrex

Complete Small Business Solutions  
Custom Software  
Database Solutions  
E-commerce Solutions  
Firewall and Network Management  
Unix / Linux Administration  
Unix / Linux Training  
Web Hosting

416.209.8220  
[www.novatrex.com](http://www.novatrex.com)

## GET CERTIFIED!

Quality training in a well-equipped lab  
1st session free for you to evaluate

MCSE \$1685  
MCSA \$895  
Or (\$260 each module)  
CCNA \$335  
A+ \$365  
Private Tutoring \$22/hr

Call: (905) 763-7267  
ParsNet Systems  
[www.parsnets.com](http://www.parsnets.com)

PC TECH Service, Upgrades, Network Security, Virus Removal. Onsite. Low Rates 416 560-7850

Page 2002 Computer Help, Troubleshooting, Tutorial, Internet 416 221-1968 [www.page2002.com](http://www.page2002.com)

Professional laptop/notebook REPAIRS, new/used PARTS, UPGRADES, RENTALS, password removals (905) 470-1857 [www.NotebookSolutions.ca](http://www.NotebookSolutions.ca)

## Laser Printer Toner & Repair

Copier, Fax, Inkjet Cartridges, Service Tons of recycled toner, inkjets, ribbons  
HP II, III \$39; HP IIP, IIP \$49; A30 \$75;  
HP 5L, 6L 1100 \$49; HP 4000 \$79; Opius E \$39;  
Oli 400/600E \$17; OPC \$99; Xer WC 385 \$89;  
Xerox XE 60, 80, XC 820 to 1235 \$99  
We carry major brands 905-890-0330  
We Buy Empty Cartridges [pmdave12@aol.com](mailto:pmdave12@aol.com)

PROFESSIONAL SOFTWARE DEVELOPMENT Andrei 905-709-0568 [www.3sympatico.ca/ansvel/home.htm](http://www.3sympatico.ca/ansvel/home.htm)

## MONITOR REPAIR

PC, MAC All Models & Sizes, TV VCR, Electronics Repair Free Estimate & Low Prices.  
Sell Used Monitors  
(905) 415-8855  
(call: 8:30am - 9:30pm)  
Ruan Computers & Electronics  
107 Telson Rd  
(North of Steeles and Victoria)

SavingHosting.com \$1 Web Hosting  
VisaHosting.com-your visa to hosting solutions!

WEB DESIGN 416.635.9411  
[www.easyimaging.net](http://www.easyimaging.net)

Web Design, On-line Business, Flash & Computer Animation, Multimedia Presentation. Professional & Best Rates Guaranteed, [www.jumpmedia-center.com](http://www.jumpmedia-center.com) 416-588-4638, 416-648-0133 (cell)

WWW.WEBHOSTCITY.COM  
Windows Hosting, fast and reliable, asp, asp mail, SSL Call 877-446-7195.

## Flash Web Design

Affordable Web Design  
Hosting • Makeovers  
[evan@dtmedia.com](mailto:evan@dtmedia.com)  
[www.dtdmedia.com](http://www.dtdmedia.com)  
Call: (416) 977-8987

## WANTED

BUY NOT WORKING PARTS AND SYSTEMS. All Components Wanted. 4544 Dufferin Street, Unit #42, North York, ON 416-661-7211

BUY USED AND UNWORKING LAPTOPS. Authorized HP, Dell Tech do the best service (416) 937-1537.

WANTED NOT WORKING/Working Computers Corporate Clients only, Large Qty 416-994-8324.

# CRS

COMPUTER RENTALS & SALES  
Sales, Rentals, Service & Networking  
795 Warden Ave. Scarborough, Ont.  
(T) 416-751-5000 (F) 416-751-5637  
www.crs4computers.com  
EST. 1986

## Compare-YOU be the judge

	CRS	YOUR DEALER
*Rent it - daily, weekly or monthly.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
*A full system purchase <sup>2</sup> , entitles you to "LIFE TIME labour warranty" <sup>3</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
*If you like the rental apply 80% of the rental, to the purchase.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
*Network your systems or servers.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
*Keep your system up-to-date with our guaranteed buy-back plan <sup>4</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### MONITORS

Envision LCD.....	\$399.00
LG 17" 700S.....	\$179.00
Samsung 17" 753DF.....	\$209.00
CTX 17" PL70.....	\$169.00

### PRINTERS

Epson C42UX.....	\$62.00
Canon B320.....	\$97.00

### USED MONITOR/SYSTEMS

15" Grade "A".....	\$65.00
17" Grade "A".....	\$110.00
PII 400, 64mb, 4-6gb, CD, SC, NIC.....	\$169.00

### ACCESSORIES

6ft USB AB cable.....	\$ 1.99
Power bar 6 outlet.....	\$ 5.50
USB PCI card 2.0.....	\$ 29.00
350watt ATX P4 P.S.....	\$ 25.00
580watt PMPO speakers.....	\$ 14.99
80 min 50pak cd spindle.....	\$ 15.99
5 port Aopen 10/100 switch.....	\$ 30.00
Logitech optical Mouse PS/2/USB.....	\$ 16.49
Jimcam digital Camera.....	\$ 44.99
Logitech quickcam xpress.....	\$ 33.99
USB PS/2 silver Mouse.....	\$ 2.99
650VA UPS Backup.....	\$ 79.00

### SYSTEM \*\* VALUE SERIES \*\*

Duron 950Mhz, MB 810 skt-A W/Sound, 56K Modem, Video, 10/100, 128 SDRAM, 1.44 floppy, 30gb 7200RPM HDD, Mid tower Case, PS/2 Keyboard + Mouse, 160 watt Speaker.  
\*\*\*ONLY.....\$ 369.00\*\*\*

### SYSTEM \*\* PLATINUM SERIES \*\*

ASUS P4SE skt 478 MB w/audio, P4 2.4ghz CPU, 256DDR PC266 RAM, 1.44 floppy, 56k modem, 60gb 7200RPM HDD, GeForce2 MX400 64mb Video, Dlink 10/100 NIC, LG 48x24x48, 580watt subwoofer, Mid Tower case, Win Xp-Home, MS Internet KB/MS.  
\*\*\*ONLY.....\$ 1049.00\*\*\*

### NETWORKING

Dlink 4 port router DI-604.....	\$ 75.00
Linksys 10/100 PCI NIC.....	\$ 12.99
25' RJ45 cat 5E cable.....	\$ 3.99
Linksys USB 10/100 adaptor.....	\$ 19.99

### CDROM/DVD/CDRW

LG 52x.....	\$ 32.00
LG 16x DVD.....	\$ 60.00
LG 48x24x48.....	\$ 79.99
Pioneer DVDRW A05.....	\$ 449.00

MON-FRI 9 a.m. - 6 p.m.  
SAT. 10 a.m. - 4 p.m.

Government, educational, corporate PO's Welcome.

Prices & availability are subject to change without notice.  
<sup>2</sup> Must be new system purchase w/monitor.  
<sup>3</sup> Labour only includes any future upgrades/installs.  
<sup>4</sup> Ask for details.

CYBERPLAY

# PC gaming:

## What's coming ...

By CHRIS TALBOT

The non-stop holiday release schedule kept us hopping throughout November and December, but with the holidays now over, this is a quiet time for PC game releases. The relative silence from game publishers and developers usually lasts until sometime in February, with a few releases in January.

Of course, some major games get held over to January or February. For instance, *Tom Clancy's Splinter Cell*, developed at Ubi Soft's Montreal Studio, will be on store shelves shortly. The hit Xbox game about an agent working for a top secret NSA agency called Third Echelon should be just as fun to play on the PC as it was on Xbox. We should have a review of the game in next month's issue.

We've been hearing about some interesting upcoming games lately. Here are three of them:

### Star Wars Galaxies: An Empire Divided

Currently in its second of three rounds of beta testing, *Star Wars Galaxies: An Empire Divided* is a massively multiplayer online role-playing game (MMORPG) set in George Lucas's popular space opera universe. Journalists first caught a whiff of *Galaxies* back in 2000, then saw the first demo of the game at Electronic Entertainment Expo 2002, and it's been getting a lot of attention (and for good reason).

The MMORPG will allow thousands of gamers to interact in the *Star Wars* universe in a way similar to that of *EverQuest* (incidentally, *Galaxies* is being developed by Sony Online Entertainment, the same company that brought us *EverQuest*). The game will take place in the time between the original *Star Wars* movie and *The Empire Strikes Back*. Players can create any number of different types of characters, but official *Star Wars* characters are off limits (however, some of them might appear from time to time throughout the course of the storyline). Participants in the massively multiplayer game (for those not familiar with MMORPGs, note that there is no offline portion of the game - it's online only) will be able to set themselves up with a virtual life (or lives) in the *Star Wars* universe on any of more than nine planets. It's still unknown exactly how many locations

will be available at the outset of the game, but certain *Star Wars* staples like Tatooine, Naboo, Yavin IV and Endor have already been confirmed.

A number of professions and skill sets will also be available to create just about any type of *Star Wars* character imaginable, but players going into the game expecting to be Jedi should know it's not a career choice at first. SOE is putting a tight leash on the secrets to becoming a Jedi, and it's expected only a tiny percentage of the *Galaxies* community will actually learn to master the Force.

Expect *Galaxies* to arrive in stores on April 15. The game will include a one-month subscription to the service. Monthly fees have yet to be announced, though. Expect them to be somewhere in the vicinity of US\$10 per month.

Also, SOE is already planning on its first expansion, which will probably be out six months to a year after *Galaxies* launches. *Space* will add space travel and starships to the game (potential Han Solos will just have to wait - sorry).

### Greyhawk: The Temple of Elemental Evil

Pen-and-paper *Dungeons & Dragons* players will need no introduction to *The Temple of Elemental Evil*. As one of the most popular modules for *D&D* (it goes for big bucks on eBay), it's a classic, but it's about to enter the computer realm.

Based in the semi-popular World of Greyhawk (most *D&D* PC games are based on the more popular Forgotten Realms world), *The Temple of Elemental Evil* is being developed by Troika Games and published by Infogrames. Troika, a relatively new development studio, is known for its first and only release thus far, *Arcanum: Of Steamworks and*

*Magick Obscura*, a fantasy RPG in a setting resembling the Age of Steam. *Arcanum*, which was published by Sierra, was released last year and received relatively favourable reviews.

The original *Temple of Elemental Evil* pen-and-paper module was for the *Advanced Dungeons & Dragons*, 1st Edition rule set, but Troika developers have updated the adventure to the current 3rd Edition rules, which most *D&D* PC games are based on. From what we've been hearing, everything has been converted over and the story has remained somewhat intact. It sounds like a number of changes have been made, but we'll have to wait for the finished product to see just what they are.

According to sources on the Web, *Greyhawk: The Temple of Elemental Evil* could make it to stores as early as June.

### Rome: Total War

Last but certainly not least, a number of rumours about a new *Total War* game started surfacing toward the end of last year. It seems the rumours were true, although we've yet to see an official announcement.

The third game in the series will carry the name *Rome: Total War*, following in the wake of *Shogun: Total War* and *Medieval: Total War*. It's unknown when war game fans might get their hands on *Rome*, but they can probably expect gameplay very similar to the first two games in the *Total War* series.

Of course, Activision isn't quite finished with the second title in the series. *Medieval: Total War* will be getting an expansion pack in the spring called *Viking Invasion*. According to the official press release, the expansion will take place in AD 790, when the Norse invaded neighbouring nations. ♦



**oh no.**  
virus.  
media crash.  
data loss. we can help.

Your data is important to us.  
So are you.

1.800.551.3917  
(t) 905.479.9938  
(f) 905.479.1515

105-590 Alden Road  
Markham, Ontario  
L3R 8N2  
Canada

**CBL**

www.cbltech.ca  
**VIRUS ALERT CENTRE**

CBL Data Recovery Technologies, Inc.  
The lost-and-found for 1s and 0s.

**NETWORK SUPPORT**

Novell. • Novell, Microsoft Win9x/ME/2000/XP  
• Network Installation and Service  
• Software / Hardware Sales  
• Business Vision Authorized Dealer  
• Web Page Design  
• Internet router - firewall setup

Novell. **EDUCATION**  
MASTER CHE

Reliable · Onsite · Reasonable Rates  
<http://www.comnetservices.com>

**ComNet Services**  
Tel: (416) 733-8098

**Transfer your Videos & Old Films to DVD**

- Broadcast Linear & Non Linear Editing
- Standards Conversions (NTSC/PAL/SECAM)
- Advanced DVD Authoring for Motion Picture Films
- Audio, Video, CD and DVD Duplication
- Professional Video Taping for Corporate & Television Productions
- 8 & 16mm Films, Photos & Slides to Video or DVD
- High Definition Video/VGA Projector Rental

**Overseas Video Lab (416) 244-1822**  
1359 Wilson Ave. Toronto, Ontario  
www.overseasvideolab.com Since 1980

**Monitor Plus**

**REPAIR**

**Monitor Repair**  
Any size & model (incl. LCD)  
Free estimates & Low prices  
1110 Finch Ave. W. (416) 663-8878 www.monitorplus.ca

**Monitor Sale**  
Buy & Sell (1 Year warranty)  
Monitor Recycling Centre  
1110 Finch Ave. W. (416) 663-8878 www.monitorplus.ca

**MONITOR REPAIR & SALE**

**Refurb. Monitors with 1yr warranty**  
**Lowest price guarantee!**  
**REPAIR ANY KINDS MONITORS!**

- Lowest price on the market
- 1yr warranty
- Same Day service.

• We have a monitor specialist engineer ready to serve you! (20yrs exp.)

800 Denison St. Markham Ont. 905-943-7609

**Hi Tech** \*NEW RATES IN EFFECT\*  
**CLASSIFIEDS**

Advertise your used computers & technology equipment to over 600,000\* computer users

**Toronto computes!** The **Computer PAPER**  
The Technology Lifestyle Magazine A Reader's Publication Canada's Computer Information Source

**CLASSIFIED ADS**  
\$15 per ad plus GST up to 90 characters

**SEMI DISPLAY CLASSIFIED ADS**  
\$75 plus GST per column inch (min. 1")

**DEADLINES FOR COMING ISSUES**

Issue	Book Before	Art Deadline	Distribution
The Computer Paper	Wed. Feb. 26	Mon. March 3	Fri. March 14
Toronto Computes!	Wed. Feb. 12	Mon. Feb. 17	Fri. Feb. 28

**Category** (check one)

<input type="checkbox"/> CD-ROM	<input type="checkbox"/> Hardware	<input type="checkbox"/> Games	<input type="checkbox"/> Office Equip.
<input type="checkbox"/> Consulting	<input type="checkbox"/> Internet	<input type="checkbox"/> PC Computers	<input type="checkbox"/> Services
<input type="checkbox"/> Employment	<input type="checkbox"/> Macintosh	<input type="checkbox"/> Printers	<input type="checkbox"/> Software
		<input type="checkbox"/> Repairs	<input type="checkbox"/> Wanted

**Issue** ☐ Toronto Computes! ☐ The Computer Paper ☐ Both

**SEMI DISPLAY ADVERTISING**

Single Semi Display (1.5" x 1.0")	\$80.25	\$107.00
Medium Semi Display (1.5" x 1.5")	\$118.47	\$160.50
Double Semi Display (1.5" x 2.0")	\$149.80	\$187.25

Please send digital files only. A charge of \$30 will apply for work needed on ads sent as camera-ready art (hard copy). All ads must be prepaid by cheque, money order, Visa, Mastercard, or cash (please do not send cash by mail.) Make cheques payable to the designated paper in which your ad will appear. Cheques must be received at least two weeks prior to distribution date.

**Submit your ads:** E-mail to [adclass@tcp.ca](mailto:adclass@tcp.ca), FAX to (416) 923-0247  
Mail to 625 Church St, Suite 600 Toronto ON, M4Y 2G1  
or call Donna Eng Toll Free at 1-800-465-3517 ext. 1206  
Each letter, space and punctuation is counted as a character

For one publication only: 1-90 Characters	\$16.05	1-180 Characters	\$32.10
For both publications: 1-90 Characters	\$26.75	1-180 Characters	\$53.50

**AD INDEX**

ABC	38	Humber College	58
AEI Internet	15	ICCT	18
AG Computers	42	Infonec	21
Angel Computers	8	Keit	29
AT&T - ADSL	11	LG	3
Auction4it.com	34	Logic Computer House	25
Bell Sympatico	5	Look DSL	9
BNC Compuware	24	MDG Canada	12
CanadaSys	16	Micropoint	28
CBL Data Recovery	61	Monitor Plus Inc.	61
Certification Express	58	Monitor Repair Centre	61
Classifieds	59	New Legend	37
ComNet Services	61	NT Computer	44
Compu Canada	51	Overseas Video Lab	61
Computer Square Inc.	26	PAGE BYTES	53
Computer Warehouse	40	Pathway	7
ComputerFest 2003	48	PC 4 Canada Computer	39
Computers & Peripherals	46	PC Maniak	20
CRS Computer	60	PC Shop	53
Cybernet Communications	45	PC Village	23
Cybraian Computer	35	PC Warehouse Direct	10
Dell Canada	64	Premier Computer	27
Echo Online	2,17	Summit Direct	32
Elosoft	52	The Computer edge	43
Factory Direct	63	Triton Computer	55
Fazcom Training	53	Tweakbox.com	41
GoGo Computers	22	Union Computer	47
Grey Tech	30	Winnet Systems	55
Hitech Institute	53	World's Cheapest	47

Toronto Computes! is not responsible for errors or omissions.  
The Ad Index is printed as a courtesy to our readers and advertisers.

# Profile: Josh Avery

While some of us are still grappling with the finer points of Crayola (those stick drawings are fabulous!), there are people in the art community who have moved on to entirely new and considerably more sophisticated modes of expression. Josh Avery, a 25-year-old graduate of the Ontario College of Art and member of the famefame media label (famefame.com), falls into the second slot. Using nothing more than the detritus of our consumption-driven society, Avery employs "trash technology" to create kinetic sculpture. In layman's terms, he takes apart machines and reassembles the parts to create something new.

You can interact with Avery's latest machination, "Gorgon," Feb. 13-23 at ne plus ultra project space (ne-plus-ultra.com), 1080 Queen St. W.

**Who:** Josh Avery, kinetic sculpture and video artist.

**Computer now used:** PC Pentium I; "I also have another PC — a 286. I actually do use it. For doing video I use other people's computers. I use my 286 more than I use my other PC simply because all it has on it is DOS and I use that with

a FORTH (a programming language for robotics) board that I have."

**Computer first used:** Apple IIc

**Favourite computer:** "I must say I do prefer PC. I see the attraction to Apple but there's elements to it I don't like ... I guess it's some ideology about Apple that I don't like."

**Other technical gadgetry in use at this time (cells, PDA, etc.):** None

**Do you use your computer for play?** "I'm pretty much a reformed video game addict. Same with the Internet. I don't have either because I know I'd use them too much. In the past, I would easily spend 6-8 hours a night doing that kind of stuff."

**Best thing about the technology you have:** "It's good enough for what I need. Just giving myself certain restrictions may be healthy for me. The technology that I do spend money on now are tools."

**Worst thing:** "Restrictions that impede me. Sometimes it's good and other times

it pisses me off to no end."

**What can't you live without?** "Leatherman multi-tool. Because I was without one and it was a huge pain in the ass."

**Is there anything you think you need?** "Space. That's the one thing I've been trying to get for the last year or so. But a really nice computer would be nice to have. I used to work in video a lot and then I stopped for about a year, and now I have to use other people's computers. If I had my own I would be able to do a lot more work."

**What frustrates you the most about technology?** "Trying to use technology that is badly planned out — bad interface or bad design. And then if you're going to try and fix that it just takes you a huge amount of time."

**Personal take on issues dealing with technology:** "I don't think it can really be broken down into good or bad. I think it's just more how it is the individual decides to use it. I see it as a tool and any tool can be a weapon."

Technology seems to be targeted to take from people — you're chained down by technology, you're chained down by cars, computers, whatever crap you happen to have that costs a lot of money and you have to pay it off. It just seems you end up getting trapped by the crap that you own and technology seems to help that a lot." ♦

—Samson Okalow



## Toronto computes!

## presents the 6<sup>th</sup> Annual DIGITAL DESIGN CONTEST

*Gather up your Creativity  
and your favourite graphics software  
and get going!*

**1st Prize**



17" View Sonic Monitor



**2nd Prize**



HP PSC 2210  
Multifunction Printer

**3rd Prize**



Pine XFX  
GeForce 4 17x 440 VGA

*Let your imagination go wild.*

Submit your computer-generated artwork, altered family photos, or any other creative artistic endeavours, along with the form below, by May 1st, 2003. Anything goes but keep it clean. All artwork must be submitted in hard copy no larger than 9" x 12" (no disks or e-mails please).

**TCI's 6th Annual digital design contest Entry Form Deadline May 1st, 2003**

Name: .....  
Address: .....  
E-Mail: .....  
Phone Number: .....  
Age: .....

Occupation/school: .....  
Title of Entry: .....  
Hardware/Software used: .....

**NO DISK OR E-MAIL ENTRIES.**

Contest Rules: Prizes must be claimed by August 30, 03. Winners must provide valid identification upon claiming prize. The prizes awarded are not transferable and cannot be redeemed for cash. To enter and to be eligible to win, persons must be residents of Canada, and not employees or be domiciled with an employee of Canada Computes!, its affiliate companies, or advertising and promotional agencies. The winners will be selected by Toronto Computes! on May 09, 03 from among all eligible entries received on or before contest close date. Winners will be contacted by telephone or e-mail. In the event that they cannot be contacted within the first week following the contest another entrant will be selected. All entries become the property of Toronto Computes! and may be used in subsequent advertisements for the contest. All entries must be submitted by their artist and must be original work.

Send your entries to: Toronto Computes!, Digital Design Contest, 625 Church Street, Suite 600, Toronto, ON, M4Y 2G1 Attn: Editor





Advertised Dimension 8250 desktop

Enhance your creativity. With its Intel® Pentium® 4 processor with Hyper-Threading Technology at 3.06GHz, the cutting-edge Dimension™ 8250 desktop is designed to boost your creativity. Dell™ desktops powered by Intel Pentium 4 processors with Hyper-Threading Technology let you efficiently run several different applications at once so you can get more done in less time. You can also get productivity benefits on multithreaded applications that entertain and bring out creativity, like games and digital imaging applications. Prefer a notebook? Getting creative on the road has never been easier than with a Dell notebook powered by the Mobile Intel Pentium 4 Processor-M.

**One-stop shopping.** When you buy from Dell, you get one point of contact: a single source for everything you need. From system-enhancing peripherals to service and support - it's all available by phone or a click of your mouse.

**PLEASE NOTE:** Advertised prices exclude shipping and taxes except where otherwise noted.  
See footnote 1 for current shipping charges.

## Plug this into your creative outlet.

Introducing the Dimension 8250 with an Intel® Pentium® 4 processor with Hyper-Threading technology at 3.06GHz.

# Dell Home

### DELL FINANCING

YOU MAY QUALIFY FOR NO MONTHLY PAYMENTS FOR 90 DAYS.\*  
Call Dell for full details.

### DELL DEALS ONLINE

BUY ONLINE & GET BONUS SAVINGS ON SELECT SYSTEMS.

### INTERNET ACCESS INCLUDED WITH ALL HOME SYSTEMS

6 months of AOL® Dial-up Internet Access OR 3 months of Bell Sympatico High Speed™ Internet Service. Modem required for dial-up. NIC required for High Speed or cable. Restrictions and conditions apply. See FOOTNOTE 5.

### Dell Software & Peripherals

Enhance your Dell PC!



### Canon i320 Printer

**\$99**

SHIPPING INCLUDED  
sku A0068506

Enjoy true-to-life photos with up to 2400 x 1200 colour dpi resolution and printing speeds of up to 10 ppm black and 6 ppm colour.



### Canon CanoScan Lite 30 USB Scanner

**\$149**

SHIPPING INCLUDED  
sku A0068589

Optical resolution of 1200 x 2400 dpi and 48-bit colour depth, recognizing 281 trillion colours.

### Dell Desktops

#### NEW Dimension™ 4550 Desktop

Performance and Flexibility, Smart Value

**\$1299** Starting from **\$33/mo.\***  
48-mos. Purchase Plan†  
QUOTE WHEN ORDERING:  
E Value Code: 71123 CHF5CP2

- Intel® Pentium® 4 Processor at 2GHz with 512K L2 Cache
- 256MB DDR-SDRAM at 266MHz
- 60GB Ultra ATA-100 Hard Drive (7200 RPM)
- 17" E772 Monitor (16.0" v.i.s.)
- 32MB ATI® Radeon™ Ultra Graphics Card
- 40X/10X/40X CD-RW Drive with Roxio's Easy CD Creator®
- SB Live! 5.1 Digital Sound Card
- Harman Kardon HK-206 Speakers
- Integrated Intel® PRO 10/100 Ethernet
- Microsoft® Windows® XP Home Edition
- WordPerfect® Productivity Pack with Quicken®
- 1 Year In-Home Service†
- Upgrade to 3 Year In-Home Service† for \$159†

#### Recommended Upgrades:

- Harman Kardon HK-395 Speakers with Subwoofer Add \$50†
- 17" M782 Flat Screen CRT Monitor (16.0" v.i.s.) Add \$80†
- Lexmark Z35 Printer (sku A0050038) Add \$89†

#### NEW Dimension 8250 Desktop

Enhanced Performance

**\$2599** Starting from **\$66/mo.\***  
48-mos. Purchase Plan†  
QUOTE WHEN ORDERING:  
E Value Code: 71123 CHYPCP2

- Intel Pentium 4 Processor with HT Technology at 3.06GHz
- 256MB PC1066 RDRAM
- 60GB Ultra ATA-100 Hard Drive (7200 RPM)
- 19" M992 Flat Screen CRT Monitor (18.0" v.i.s.)
- 64MB DDR NVIDIA® GeForce4 MX™ Graphics Card with TV-Out
- 48X CD-RW/DVD-ROM Combo Drive with Roxio's Easy CD Creator®
- SB Live! 5.1 Digital Sound Card
- Harman Kardon HK-395 Speakers with Subwoofer
- Integrated Intel® PRO 10/100 Ethernet
- Windows XP Home Edition and Work Suite 2003
- 1 Year In-Home Service†
- Upgrade to 3 Year In-Home Service† for \$159†

#### Recommended Upgrades:

- SB® Audigy2™ Sound with DVD Audio Add \$70†
- 128MB DDR ATI® MOBILITY™ Radeon™ 9700 TX Graphics Card with TV-Out & DVI Add \$200†
- Lexmark X85 All-In-One Printer (sku A0063988) Add \$239†

### Dell Notebooks

#### Inspiron™ 4150 Notebook

Thin and Light Mobility

**\$1999** Starting from **\$51/mo.\***  
48-mos. Purchase Plan†  
QUOTE WHEN ORDERING:  
E Value Code: 71123 CHCP402

- Mobile Intel Pentium 4 Processor-M at 1.80GHz
- 14.1" XGA TFT Display (1024 x 768)
- 256MB DDR-SDRAM at 266MHz
- 30GB Ultra ATA Hard Drive
- Modular Floppy Drive
- Fixed Internal 8X Max. DVD-ROM Drive
- 16MB DDR ATI® MOBILITY™ RADEON™ 7500 AGP 4X Graphics
- Internal Modem and NIC Included
- Primary 8 Cell Battery
- Windows XP Home Edition
- WordPerfect Productivity Pack
- 1 Year Express Depot Service†
- Upgrade to 1 Year CompleteCare™ coverage† for \$99†

#### Recommended Upgrades:

- Targus NB Cable Lock (sku A0049823) Add \$36†
- 32MB ATI® MOBILITY™ RADEON™ 7500 AGP 4X Graphics Add \$119†
- Dell™ TrueMobile™ 1150 Wireless Networking PC Card Add \$149†

#### Inspiron 8200 Notebook

Desktop Performance to Go

**\$2199** Starting from **\$56/mo.\***  
48-mos. Purchase Plan†  
QUOTE WHEN ORDERING:  
E Value Code: 71123 CH9CP02

- Mobile Intel Pentium 4 Processor-M at 2.0GHz
- 15" SXGA+ TFT Display
- 256MB DDR-SDRAM at 266MHz
- 30GB Ultra ATA Hard Drive
- Dell DualPoint Keyboard
- Modular Floppy Drive
- 8X Max. DVD-ROM Drive
- 32MB DDR NVIDIA® GeForce4 440 Go™ AGP 4x Graphics
- Internal Modem and NIC Included
- Deluxe Nylon Carrying Case
- Windows XP Home Edition
- WordPerfect Productivity Pack
- 1 Year Express Depot Service†
- Upgrade to 1 Year CompleteCare coverage† for \$99†

#### Recommended Upgrades:

- Dell 64MB USB Memory Key Add \$69†
- Dell TrueMobile 1150 Wireless Networking PC Card Add \$149†
- Windows XP Professional Add \$150†



The Brain  
Inside  
Your PC



Order the easy way. Visit [www.dell.ca](http://www.dell.ca) or call toll-free 1-877-517-6596

MON-FRI 8AM-10PM EST • SAT 10AM-6PM EST • SERVICE IN FRENCH: MON-FRI 8AM-7PM EST • SAT 10AM-6PM EST

Dell recommends Microsoft® Windows® XP Professional for Mobile Computing

Advertised prices are available now until February 28, 2003, 10 pm EST for phone orders, 5pm EST for online orders. Advertised configurations and limited time offers only available to customers in Canada. All purchases subject to your Customer Agreement or Dell's standard terms of sale, Dell's limited warranty terms and the applicable Dell or third party service agreement. Copies available on request or at [www.dell.ca](http://www.dell.ca). All promotional offers are subject to cancellation or change at any time without notice. Remember to back-up your data. Dell is not responsible for lost or corrupt data or software. Dell reserves the right to limit quantities to five (5) systems per customer. Dell cannot be responsible for errors in typography or photography. **1. SHIPPING AND APPLICABLE TAXES NOT INCLUDED.** Software does not include documentation and may differ from retail version. **2. SHIPPING AND APPLICABLE TAXES NOT INCLUDED.** 48-Month Purchase Plan offered through Dell Financial Services Canada, an independent entity, to qualified customers, subject to credit approval and availability. Minimum transaction size of \$799 is required (before shipping and applicable taxes). No down payment required. Monthly payments are based on advertised prices depicted for a 48 month term, calculated using an interest rate of 9.99% per annum. Your monthly payments may be higher depending on your creditworthiness as determined by the Lender in its sole discretion. Available interest rates per annum are 9.99%, 13.99%, 16.99%, 17.99%, 18.99%, 21.99%, 26.99% and 28.99%. Finance example: \$1,299.00 @ [9.99%], [13.99%], [16.99%], [17.99%], [18.99%], [21.99%], [26.99%], [28.99%] per annum equals \$32.94, \$35.49, \$37.48, \$38.15, \$38.83, \$40.92, \$44.53, \$46.01 per month for 48 months. Total payable: \$1,581.12, \$1,703.52, \$1,799.04, \$1,831.20, \$1,863.84, \$1,964.16, \$2,137.44, \$2,208.48. Full cost of borrowing: \$282.12, \$404.52, \$500.04, \$532.20, \$564.84, \$665.16, \$838.44, \$909.48. Terms subject to error and change without notice. Please contact Dell for full details. **3.** For hard drives, GB means 1 billion bytes; total accessible capacity varies depending on operating environment. **4.** See Dell's limited warranty terms and the applicable Dell or third party Service Contract for service and warranty terms and conditions. Copies available on request or at [www.dell.ca](http://www.dell.ca). Services may not be available in all areas. In-home service refers to Dell's Next Business Day On-Site Service. In-Home service may be provided by a third party contract with customer and may not be available in certain areas. **TECHNICIAN WILL BE DISPATCHED, IF NECESSARY, FOLLOWING PHONE-BASED TROUBLESHOOTING.** Dell must notify the service provider before 5:00 pm local customer time; otherwise it may take an additional business day. **CompleteCare coverage** only covers internal hardware components and does not cover peripheral devices, damage or loss caused by fire, theft, intentional acts, or by normal wear if the normal wear does not affect performance. **5. All Promotional Internet Access Offers:** Limited time offers available to Canadian residents with the purchase of a Dimension or Inspiron computer for home use. To be eligible, you must be within the service area of the Internet service provider you choose; final eligibility for service will be determined by the Internet service provider. You must be a new subscriber and register at time of computer purchase (for AOL must register within 6 months of invoice from Dell). You must accept the Internet service provider's then current terms of service. Promotional period begins upon registration and cancellation must be made during this period in accordance with the Internet service provider's then current terms of service, otherwise service will continue and you will be billed the Internet service provider's then current monthly rate. Contact the Internet service provider for a copy of their then current terms of service. Limit one (1) offer per computer per household. Dell systems must be equipped with a Network Card (Ethernet card) for high-speed access or a modem for dial-up access. Offers not combinable with any other Internet access offers from Dell nor other offers from the respective Internet service providers. **For Shaw High Speed,** full installation and cable modem is provided. **For Rogers Hi-Speed,** a \$10 monthly fee may apply to non-cable subscribers. Must have a major credit card to register. Cable modem is provided. Offer not available to employees of the Internet service provider or its affiliates, including persons with whom they are domiciled. **For AOL,** you must be 18+ and have a major credit card. During six month included membership period, members outside AOL Canada Inc.'s local calling areas may incur telephone charges on their phone bill. Communication surcharges, telephone bill charges, and premium service area charges will apply if you use the services during your six months included AOL membership. See online registration for complete details. AOL is not available for Windows 3.1, Windows NT and Macintosh. AOL is a registered trademark, and the triangular logo, AOL Instant Messenger, Buddy List, Parental Controls and the AOL triangle logo are trademarks, of America Online, Inc. **For Bell Sympatico High Speed,** Service only available to residential customers in Ontario and Quebec where technology permits. Must register by major credit card or pre-authorized payment. Offer applicable to the self-installation option only and does not include the cost to correct any wiring configurations in customer's residence. One time activation fee of \$29.95 is currently waived. Sympatico High Speed is a trade-mark of Bell Canada. **6.** 90 Day Deferred 48-Month Purchase Plan offered through Dell Financial Services Canada, an independent entity, to top tier credit qualified customers as determined by Lender in its sole discretion, subject to availability. Minimum transaction size of \$799 is required (before shipping and applicable taxes). Not available on past orders or past financing. Additional restrictions and conditions apply. Call Dell for full details. **7.** Connect at rate of 11 Mbps up to 100m from connected access point. Range may vary due to interference such as transmission barriers, walls and building material. **™** Dell, the Dell logo, Dimension, Inspiron, Axim and CompleteCare are trademarks of Dell Computer Corporation. **™** Microsoft, MS, Intellimouse, Windows and Windows NT are registered trademarks of Microsoft Corporation. **™** Intel, the Intel Inside Pentium III logo, the Intel Inside Pentium 4 logo, Pentium, Celeron are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries. **™** All other trademarks and registered trademarks are the property of their registered holders. © 2003 Dell Computer Corporation. All rights reserved.

AD CODE TC17